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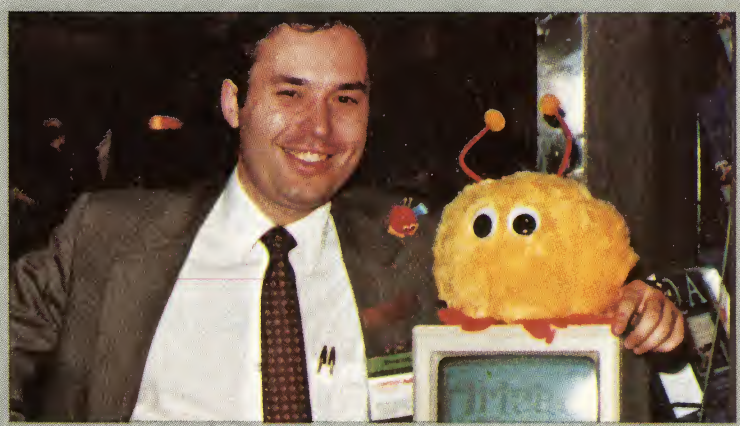
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THE MACazine













Comdex—Fall 1984



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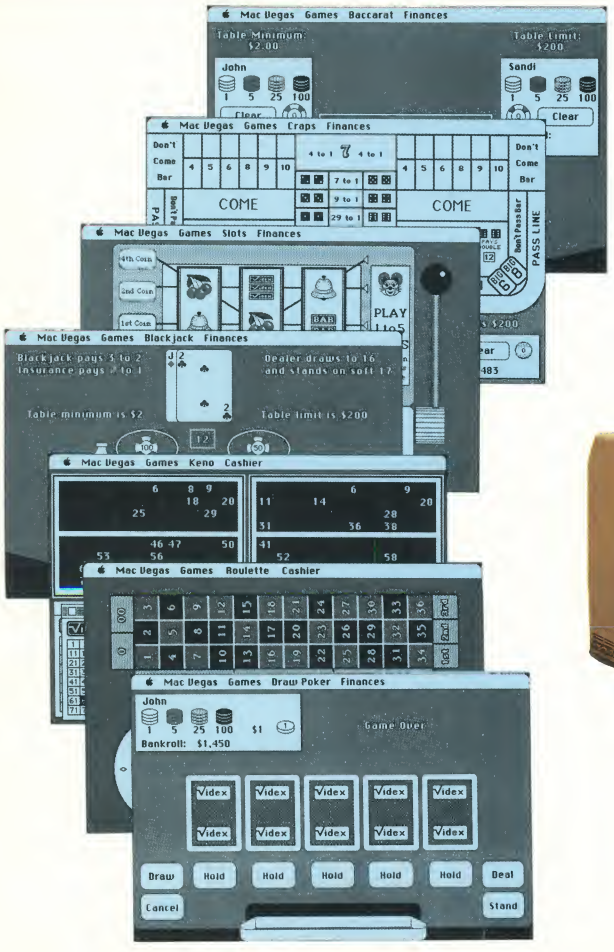
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A monthly magazine for Macintosh users

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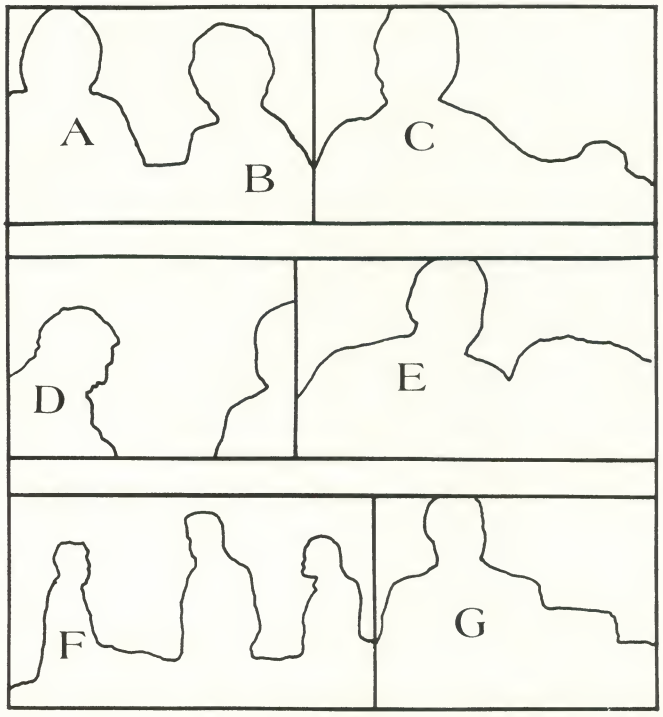
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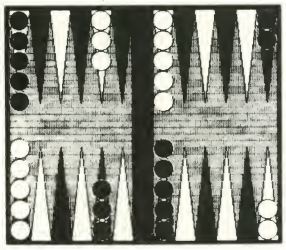
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PERSPECTIVE

Apple and "The rest of us"

Poor Apple. . . never a "non-controversial" company, they've certainly been receiving their share of criticism and "flak" of late. They've long been blamed for the lack of Macintosh software, as though they had planned it that way. They didn't.

The Apple University Consortium program, suitably visionary in terms of the long range, has been adjudged wanting in the short range by some of the dealer community who may be expected to benefit most. . . eventually. . in the long range.

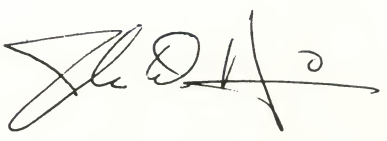
Users upgrading from 128-512K have been outraged at the cost of the enhancement, but although we've seen lots of editorial distress from all directions, we've seen few kudos offered for the "earlier than planned" release of the 512 Mac or the upgrade.

And now we begin to hear the suggestion that Apple is about to "blow it" again by obsessively targeting the Macintosh to the Fortune 1000 business community, instead of accepting it as just "the computer for the rest of us," as though "the rest of us" didn't have to work, too.

Well, we mostly disagree; we're grateful to Apple for making the Macintosh available when they did, even without all the software which is now making it's appearance. We could have waited and missed the fun of it all! We also appreciated the early release of the 512K Mac, the opportunity to upgrade, and the promise of free MacProject and MacDraw. We didn't like the price, but think that, on balance, Apple did about all that could be done with the price; chips are not cheap and Apple does need to make a profit to stay in business. . ."for the rest of us."

We always felt, and still believe that the Apple Consortium Program is a truly inspired project, the positive benefits of which (new users, new developers and developments, new markets, more and better of everything!) will outweigh the negative a thousandfold, for all of "the rest of us."

And finally, we can't fault Apple for targeting the Macintosh to make major penetrations of the Fortune 1000 business market. We, like the analysts at Business Week, believe that they've got a fighting chance at a major success, and wish them well. We can't for the life of us, understand how Apple's success could hurt, nor how their failure would help. . ."the rest of us."



John D. Buquoi

Review: 1st Base

by John Venable

Last month, as I was putting the finishing touches on my review of the original version of this program, I called Desktop Software to get some additional information. I was pleased to learn at that time they were planning to release an upgrade for the program in late October. They have performed as promised, and the upgraded version of 1st Base is now available. Registered owners may receive their copy for a $25 charge. This review is based upon the final release version of the software and a marked-up final draft of the new manual.

I was all too happy to rewrite my review, since most of my criticisms were answered by the upgrade. 1st Base is now a powerful, flexible database management program capable of handling large databases (given the right hardware) and generating sophisticated reports. It makes effective use of the Mac environment, including pull-down menus, good screen graphics, and judicious use of the mouse. And, perhaps most important, it is one of the first database programs designed for the Mac that has relational file capabilities.

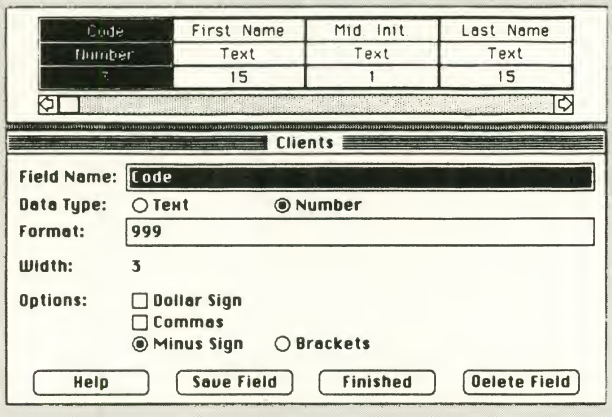


Figure 1: Blueprint (record) Design Screen. Use this screen for each field in the file. Field name, type, length, and options are entered here.

Record Design; Data Entry

Record (blueprint) design on 1st Base is straightforward. The screen shown on Figure 1 is used to name fields (up to 12 characters), define them as either text or numbers, and specify their length. Text fields may be up to 50 characters, and numeric fields may have up to 17 digits, 9 to the right of the decimal point. Numeric fields may also be formatted with dollar signs, commas, or brackets for negative numbers. Up to 100 fields may be defined for a file, with total record size of up to 5,000 bytes. Subsequent changes in the blueprint design are allowed and are easy to implement. Adding new fields, increasing field length, or changing the field name will not cause loss of data.

When the blueprint has been completed, the program will display the results as depicted in Figure 2. For records of up to 15 fields, 1st Base will display each field on a separate line. For longer records, the program will attempt to place any two short, consecutive fields on the same line, thereby making greater use of screen space. Up to 30 fields of no more than 16 characters in length can be displayed at one time. Of course, a vertical scroll bar is provided to display longer records.

Data entry is also made easy by eliminating the mandatory use of the mouse. Practically all entry and editing functions can be performed from the keyboard. Another time-saving feature is using the Tab key in any field to automatically insert data from the previous record.

The blueprint design and data entry functions are not without their faults. I would like to see a date field, which allows the user to enter dates in the typical MMDDYY format and yet performs sorts and comparisons as if it were entered as YYMMDD. Further, 1st Base has no error-checking features, except to refuse to accept any alphabetic characters in a numeric field. The program should at least beep when this occurs or when an entry exceeds the field length. The screen design for data entry is okay, but not as good as a totally user-defined design found in some programs. Any fields later added are tacked on at the end of the record, and may not be inserted where desired. Files may be rearranged, however, by creating a new file as described below.

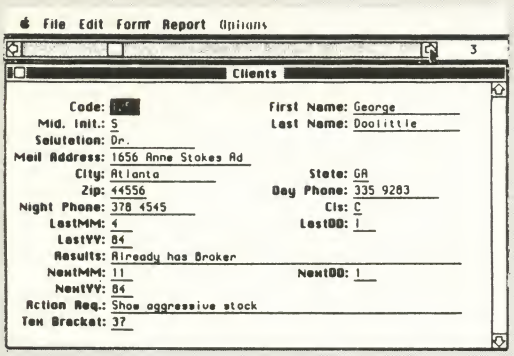


Figure 2: Data Entry Screen. The horizontal scroll bar at the top indicates the current position in the file. Clicking the arrows at either end causes the program to scroll backwards or forwards through the file, one record at a time. Dragging the scroll box will quickly relocate to another position in the file.

Record Searches

1st Base has an unusual, perhaps unique, way of finding and accessing records after entry. The horizontal scroll bar at the top of the screen controls this function. Clicking the arrows on either end of the bar is used to scroll forward or backward through the file, one record at a time. The user may also drag the scroll box to quickly jump to another part of the file.

To locate records with specific characteristics, the Find function is used. The user selects a field and enters the character(s) he is searching for, and may include one or more question marks to represent any character. For example, searching for M?c in a name field will find Old MacDonald, Hyam Cohen, and microcomputers (upper and lower cases are ignored). The search commences from the current position in the file, as indicated by the horizontal scroll bar. Desktop claims this is a time-saving feature, since the user can select where he wants his search to start by dragging the scroll box. They have a point, but you have to remember to drag the box to the far left if you want to search from the beginning of the file, a requirement I found somewhat disconcerting. Perhaps more frustrating is the fact that the program searches for a match anywhere in the field. Thus, you cannot specify a search only for a name which starts with "A". 1st Base could use some improvement here.

File Manipulation

One of 1st Base's major strengths is its ability to manipulate files in a number of ways. The most powerful of these is joining files related to each other by a common field. The example used in this review is a database for a security broker which contains the client names, account numbers and basic demographic data. Now suppose he wants to record information on his clients' securities transactions as well. With other non-relational databases, he would have to enter, for each transaction (record), the transaction data (number of shares, price, description, etc.) and the client's name and account number. Manually entering the client's name for each transaction is not only time-consuming, but it eats up a lot of storage space as well.

With 1st Base, two files may be used to accomplish this task: one for basic client data, and one for recording transactions. The two files are related to each other by one common field: an account number. Using the join function, these two files can be combined to create a new master file, with each transaction as a separate record, and each record containing both transaction data and client data. The new file can then be used to generate both portfolio reports for each client's holdings and a cross-reference report showing which clients hold each different security. This powerful feature saves time and disk space.

If you've been reading carefully, you might point out that the new joined file probably contains more information (fields) than are really needed. Desktop thought of that, and allows the user to create new databases that are subsets, or rearranged versions, of existing files. When designing a new file, the user can select which fields are to be transferred and their order. He can also compute new fields, select which records are to be included, and sort the new file on up to ten different fields (these functions are described in greater detail below).

Files may be sorted on one field without creating a new file. The new sort procedure uses a disk scratch file to perform the sort which needs to be as large as the file itself. In the previous version, sorts were done in memory and tended not to work when dealing with large files.

Users may also combine two identically formatted files via the Append command, and may delete unwanted files from within the program environment. Curiously, no ability to back up files from the program exists. I suppose Desktop reasoned there was no need to take up valuable memory space for such an option when the Finder can do the job.

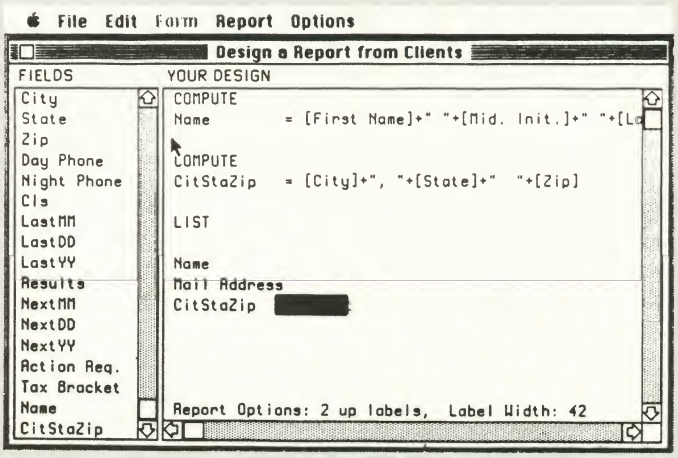


Figure 3: Report Design Screen. Note how the computed field logic, label format, and selection options appear on the design screen.

Reports

The lion's share of 1st Base's improvements in the upgrade are in the report procedures, which before had been adequate at best. Users now have the ability to compute new fields, print multi-up labels, generate completely free-form report designs, and save reports and report designs. The screen used to generate reports is shown in Figure 3.

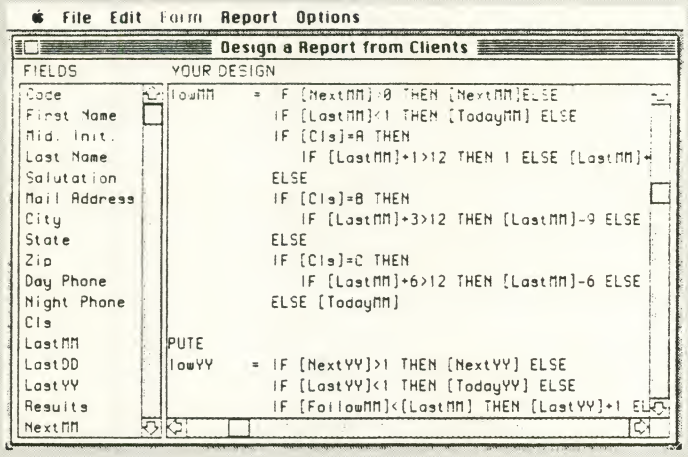


Figure 4. This is a partial listing of a computed field statement. Note the use of nested IF-THEN-ELSE phrases.

The report design screen is well thought out. Everything used in the preparation of the report appears on the screen in plain English, including the logic for any computed fields, the report heading, the list of fields being printed, the sort options, statistics, the select options, and printing (spacing) options. In the upgraded version, report designs can be saved for later use or modification.

Other than the mail merge report discussed below, two basic types of reports can be produced: lists and groups. A list report contains selected information from desired records and may include subtotals and totals for numeric fields. The group report is used to generate statistics for selected fields and records. Available statistics include number of, sum of, average, first of, last of, minimum, and maximum.

These reports can be produced in either a columnar or mailing label format. Columnar reports have field names as headings, and spacing between columns is determined by the longer of the field name or field length. The user can specify the number of spaces between each record or group of records, or skip to a new page. The mailing label format can print labels up to five across with user-specified spacing, both horizontal and vertical.

After the report is generated and appears on the screen, the user has the option to print the report or save it. No choice of fonts or print quality is available; 1st Base uses a modified version of 9-point Monaco. However, a saved report can be accessed, modified, and printed by Macwrite, thereby allowing different fonts and print quality. The manual provides step-by-step instructions on how to accomplish this.

There are a few drawbacks to the report procedures. The absence of font choices or print quality means additional time and tedious effort must be spent in Macwrite "sprucing up" your documents. Further, Macwrite is not particularly adept at printing wide reports, given its liberal spacing conventions and other limitations. 1st Base needs to provide font and print quality choices, and be able to print wide (lengthwise) documents.

When designing reports, the screen gives no hint as to how wide a report the user is creating, a fact necessary to determine if it can be properly printed. The manual gives no help either, so the user is left to experiment. A similar problem occurs in the preparation of mailing labels. While the user has control over horizontal and vertical spacing, he is not told the number of characters per horizontal inch, or the number of lines per vertical inch. Once again, experimentation is the only guide here. Also, I would like to see user-defined column spacing, even if it means truncating data in the report. In many applications, it is useful to display an extra field and forego the last few characters in other fields.

Selecting and Sorting Records

Users can control which records are included in the report by using the Select function. Any field (including computed fields) can be compared against a constant (but not against another field) using a full range of relational operators. Several selects may be used in the same report, and are implicitly connected by the "AND" logical operator. An example: select record IF ZIP >=01200 (AND) IF ZIP<=21000 (AND) IF LAST NAME>Ba (AND) IF LAST NAME<=Fz. This will produce a list of clients with last names from B to F with Zip codes between 01200 and 21000. One drawback to the select feature is that it does not provide for "OR" selects; however, with the creative use of a computed field, a user can create his own "OR" select (I won't go into details). 1st Base also allows multiple, or nested sorts on up to ten fields.

Computed Fields

The most powerful addition by far is the use of computed fields. Up to 25 computed fields per report may be created using an extensive array of mathematical functions, character string manipulations, and IF-THEN-

ELSE logic. Computed fields may be used, as with any other field, to compute other fields, and perform sorts or selections.

To demonstrate the power of this feature, consider the sample report design partially shown in Figure 4. This report generates a list of clients for today who are scheduled to be called, because 1) they have never been called (a prospect, really), or 2) it's time to "touch base" or 3) there is a specific need to call. In each client record, there are three pieces of information needed to determine this: the client's rating (an A client gets called every month while a C client every 6 months); the last call date (which may be blank if he's never been called); and a follow-up date (which is filled in only if a specific need exists to call him then). To determine if a client goes on today's follow-up report, some complicated tests are needed to determine the follow-up date. If the last call date is blank, then the follow up date becomes today's date. If the follow up date on the record is non-blank, then it becomes the follow-up date. Otherwise, the follow-up date will be computed according to the client's rating and the last time he was called; e.g., a class C client last called on 10/15/83 will have a follow-up date of 4/15/84 (six months hence). Finally, the resulting follow-up date is compared with today's date to determine if it is to be included in the report.

This complicated logic is easily performed by 1st Base using several computed fields and nested IF-THEN-ELSE statements. Computed text fields are also available. For example, if a user wanted to print mailing labels, he could compute the name as follows: FULL NAME={FIRST NAME} + "" + {MIDINIT} "" + {LAST NAME}. 1st Base eliminates any trailing blanks in such a string addition, resulting in "John M. Smith" rather than "John M. Smith".

The computed field features should satisfy 95% of anyone's needs, but I would like to see some improvements and additions. String manipulations are limited to simple additions. I would like to see a string concatenation feature, which would allow you to extract parts of a string, such as the first character of a middle name. Also, text and numbers cannot be used in the same expression. This makes sense from a programming point of view, but it would be useful to be able to convert a number to a string equivalent. Higher level numeric operations would also enhance the program's power. But all of these suggested improvements here should be classified as niceties, not necessities.

Mail Merge

The upgrade version now includes a mail merge capability, but in my opinion, it's a big disappointment. Similar to the other reports, mail merge reports can include computed fields, selects, and sorts. The big difference is that you can include text and field values anywhere in the report and thereby create form letters, or forms of any kind such as invoices or customized business reports. So what's the disappointment? To my amazement, 1st Base does not allow you to save a mail merge report for later modification by MacWrite. This means you are stuck with the output provided by the program, which is 9-point Monaco, standard quality. The result is simply not appropriate for letters, unless you don't care what the addressee thinks of you.

Limitations

For the record, 1st Base has a 16MB total file size limitation. However, this is the effective limitation only if you have a 512K Mac and a large hard disk. If you have an external floppy disk, the file size can be at most 200K if you expect to perform sorts on this file. For single drive users, the limit is about 82K. This is because the program uses a scratch disk file to perform sorts which must be as large as the file itself. If you save report designs, effective file size is even smaller since the design must reside on the same disk as the file it accesses (report designs are roughly 3 - 5K each). If you create reports longer than about seven crowded pages (32K) the program temporarily stores the report on disk, which again reduces available file space. As for memory, the manual warns that reports which use compute statements, selects, and sorts consume lots of memory. It suggests that if the program cannot perform all the manipulations in one report, the user should break the tasks into smaller units. It should be noted that none of these comments is necessarily a criticism of 1st Base, but rather it is a recognition of the hardware constraints within which it must operate.

Documentation

The revised version of the manual is a significant improvement over the original, but more improvements are called for. Most of the manual is written in a tutorial format, which is helpful for beginners but not as useful when looking for a specific topic. I would like to see a separate reference section which describes each function in detail and its possible error messages. One big improvement would be to include a section on specific applications and suggested approaches. 1st Base is a powerful and flexible program, but the use of some of its features may not be obvious except to the more experienced users or programmers. Some suggested topics to cover might be: how to manipulate large data files; how to produce professional quality mailing labels by eliminating embedded spaces and blank lines; how to create OR selects by using computed fields; and how to set up complex report formats. Desktop plans to meet this need through a periodic distribution called Users' Notes.

Summary

1st Base is well on its way to becoming the standard by which other database programs will be judged. Desktop has demonstrated its commitment to producing a quality product with its most recent upgrade. I hope they will continue this trend with future revisions to make its mail merge capability more useful, provide a choice of fonts and print quality, enable more sophisticated record searches, and provide error-checking functions.

I suspect that Desktop and other developers continue to grapple with the dilemma of providing a full-featured, yet large, database program for users with two disk drives, while meeting the needs of single drive users with limited storage space. The two objectives are not at all compatible. According to one report, only 50 to 60 percent of current Mac owners are buying external drives, so the dilemma is real. I hope that Desktop will cater to the two-drive owners and continue to add features to 1st Base, even though such may make it cumbersome or unusable on single drive machines. My reasoning is simple. Users who recognize the need for a sophisticated database program such as 1st Base are also likely to recognize the need for a second disk drive.

1st Base
DeskTop Software Corporation *(609) 924-7111*
228 Alexander St. (CN-5287) *Retail Price-$195*
Princeton, NJ 08540

MAC-MAIL

(Editor's note: We have heard from several of our readers that they are receiving duplicate copies. Due to the transition to magazine format, some of our mailing lists were duplicated. Hopefully, this will be corrected by the time this issue goes to press. In the event that you receive more than one copy, don't throw the extra one away...share it with a friend, keep the extra copy in your guest "library"...even mothers-in-law will enjoy The MACazine.)

Sirs:

I do enjoy your publication. I find it informative, enlightening, entertaining and well worth the subscription price. I love being on the cutting edge of a technological revolution and am very very satisfied with your work so far. Therefore, you really don't have to go out of your way to make sure that I receive each and every copy, the normal methods you use for everybody else should be sufficient for me.

What am I speaking (writing) of? Well, for the last 2 issues I have two (count 'em, 2) copies. I am not sure that I need two issues and I doubt that you need to use up the extra printing and mailing costs on just me. More than that, the issues have arrived with 2 different labels.

What I suspect has happened is that I have either subscribed twice or that you have put me into the data base twice. Either way, I don't need the two issues. If the former is the fact, then please extend my sub an additional year. If the latter is the fact, then just save yourself the mailing costs and crop me out of one file or the other.

Oh yes, if you are going to pick up the St. Mac subs, I had one of those too. Sorry to see it go. Was kind of a nice change of pace must be what happened!) Speaking of which, at the November 15th LA Macintosh Group meeting we had one of the former female editors...er, I mean, we had a female who happened to be one of the editors (or the editor) of the very same demised publication. Wish I could remember her name but seemed very nice.

Anyway, enough of this. Time for dinner and I hear my 2-year-old Josh attempting to create a new musical scale based on the most shrill combination of notes possible on his toy piano. So I will leave you before my wife loses her mind and I lose my wife.

Once again, thank you all very much for your good work. By the way, have any of you had any experience with a spell checker for the MAC?? I need one desperately. Might be a topic for an article. I would even volunteer to do the review if you have any samples to use. I know Hayden has one and something called MACWARE has one but are there any others and, if so, how would you know which to take?

More shrills from the child in the background...(and screams from the wife)

for now

David B. Lagerson
Canoga Park, CA 91306

Dear ICONCEPTS
PLEASE IN A FUTURE ISSUE PUBLISH MY MAC GROUP AND NAME SO I CAN ATTRACT MORE MEMBERS.THANK YOU.YOUR READER AND MAC CLUB PRES., MARK NOWAKOWSKI

CENTRAL FLORIDA MAC USERS
MARK NOWAKOWSKI
248 MANTE DRIVE
KISSIMMEE, FL. 32743

Dear Sir:

Some comments: CON—Your competition—*MAC WORLD*—is a fine magazine. Basically (right now) it is your only competition, not to overlook such newsletters as *MACLine*. In looking through your newsletter, I mostly find news and products that I have already read about in MACWORLD. This is no fault on your part because I am not currently subscribing to your newsletter but only receiving complementary monthlies a little later than a subscriber probably would. PRO—I did, however, find in your newsletter a softwhere product being developed that I have yet to see anywhere—Ref. RABELAIS COMPUTING's CAD & ENGINEERING EFFORT. This was not only good information for me, but probably aided Mr. RABELAIS in marketing research for his product line (He responded immediately).

I realize that not all development efforts can be broadcast to the public, but commend your ferreting-out of this programming effort.

MACWORLD	ICONCEPTS
0	1

I credit that 70,000 units in 100 days at about 10-20% infatuation for Bill ATKINSON's MACPAINT program. With the exceptions of APPLE's two fine graphics programs PAINT & DRAW and Filevision's™ outstanding graphics data base, where are those kinds of graphics programs that fulfill one of the MAC's tremedous potentials?

Keep up the good work!

Larry Nicalek
Poughkeepsie, NY 12603

Dear Sir:

I'd like to receive *MACazine* for $18 plus postage to Belgium. You didn't write me how much that would be. The *ICONCEPTS* magazine was sent for $2, thus the new *MACazine* can't be much more. But anyway, take it from my Mastercard. There's one thing I would like and that is I want to start with number 1 of the new *MACazine*.

Do you have in the states another version of multiplan in which you can print with a 15-inch imagewriter, or how it can be solved? And how can I change the keycaps of multiplan, I have an English keyboard? The same problem for a French one. Most people around here buy an AZERTY keyboard. I have seen St. Mac once and if your new magazine will be in the same way (as you wrote), that will be all right.

I already thank you in anticipation and hope to get the magazine very soon.

Sincerely,
Moortgat Paul

Dear Sir:

I was very much surprised to read on page 4 of your October issue that St. Mac has folded. Now I know why I only received one magazine out of my 12-month subscription. I am sorry but I do not have the mailing label from that issue to send to you. Are you going to fulfill the other 11 issues, or only 4 issues?

My dealer whom I contacted yesterday said that St. Mac has indeed folded. I asked him if he had any information on *ICONCEPTS/MACazine* and he said no, that he had not and that there was not a magazine to take over St. Mac, especially not of the same quality as St. Mac. According to your issue you will be better than St. Mac. Now I am confused—what is happening?

I will be waiting for your reply. Thank you.

Sincerely,
Jim Moldenauer

Dear Dr. King:

Your recent letter to *ICONCEPTS* was brought to our attention. Our software company, previously called Tess Enterprises, is now Tess Data Systems, Inc. We do have a software program for the Macintosh and LISA 2/10 called TessSystem One, which handles accounts receivables, insurance billing, and appointments. Our program was originally designed to run on the LISA computer, but in April, when Apple announced that it was discountinuing support of the Toolkit, the operating system which enables programmers to program for the LISA in the Toolkit environment, this set our program back quite a bit. We had to more or less rewrite our program for the Macintosh or LISA in the Macintosh environment and we are just now getting to the point where we can realize a release date. The new technology that Apple has come out with is a whole new frontier for software companies, and a program as comprehensive as our medical program certainly takes some time to perfect. There is also the problem of hard disk configuration. The hard disks which are compatible for the Macintosh are just now available. We will not put our product on the market until we can recommend a hard disk which is absolutely compatible with our needs. This is still in the testing stages here.

We will make sure you are on our mailing list for future mailings. I have enclosed a copy of our recent ad in the Macintosh Buyer's Guide, which will give you some information.

I thank you for your interest in our program and hope I have answered some of your questions.

Sincerely,
Janice Conklin
Customer Relations

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Dear Sirs:

A recent letter to ICONCEPTS was brought to our attention in your October issue. We thank you for mentioning our program for the medical office and have enclosed the letter we wrote to Dr. King answering his questions.

Again, we thank you for the reference.

Sincerely,
Janice Conklin
Customer Relations



Good morning:

I am enclosing a clip art index I created. It includes images from three clip art programs I have purchased:

- Clip I from Frazier, Peper and Associates
- Click Art Publications from T/Maker Graphics
- McPic!, Volume I from Magnum Software

The object is to make it easy to find an image when you need it. Obviously, this would be a better index/directory if it included all of the commercially available clip art disks for **MacIntosh™**.

My plea to you is to make disks containing other clip art (only those disks which other **Macintosh™**. owners can purchase) available to me on a loan basis. I will integrate an index for each of these disks into my master index and return your disk of clip art along with a clean copy of the master list.

The reason why I believe you might want to do this **FREE** is because I will supply the master index to you **FREE**, with no restrictions on its use.

Both clip art programmers, retail computer stores, clubs and individual **Macintosh™** owners will profit, since I will freely make copies available to all comers. I would expect that computer stores and clubs would make the index available to members.

At most, I would charge requestors the cost of photocopying the index, or ask for a clean disk if the index is desired in that mode, plus postage as required. (Costs only!)

Please let me know if:

1) You think I have done a decent job on this index
2) Any suggestions you have for changes (keep it simple)
3) You are interested in participating by supplying loaner clip art disks to me
4) You have any other thoughts on this idea.

Please know that I am retired, and thus have the time to fool around with this project, in case you are suspicious that there is a catch somewhere.

Sincerely,
PHILLIP C. RUSSELL

Abacus	Pubs, DINGBATS
Airplane	Pic, TR/Clip I, PL/Clip I, WH2
Ant	Clip I, BUGS
Ape	Clip I, APE
Apple	CLIP I, DATA
Archery	Pic, FUN I/Pic, SYMBOLS
Armadillo	Clip I, SNAKES
Arrows	Clip I, SYMBOLS
Astrology	Pic, ASTROLOGY
Astronaut	Clip I, LUNA
Automobiles	Pic, TRANSPORT/Clip I&2
Award	Pic, SYM/Pubs, DINGBATS
Baby	Pic, PEOPLE I/Clip I, BA
Bag, money	Clip I, POLE
Balloons	Pic, MISC I/Pubs. DINGBATS
Banner	Pic, BUSINESS 2/Pic, MISC I/Pubs, DINGBATS
Baseball	Clip I, SPORTS/Pubs, COL 3
Basketball	Pic, SPORTS/Clip I, SPORTS/Pubs, DINGBATS
Bear	Clip I, APE
Bee	Pic, MISC I
Beetle	Clip I, BUGS
Bell	Clip I, SYMBOLS POLITICS
Bicycle	Clip I, WH & WH2/Pubs, DING
Birds	Clip I, BIRD (See also specific variety)
Birthday	Pic, HOL I/Pubs, PHRASES
Boat	Pic, SPORTS/Clip I, B0 & B02
Bomb	Clip I, POLE
Book	Clip I, BOOK/Pubs, COL2/Pic, HOME, Pubs,DESK
Borders	Pubs, BORDERS I&2 (see MacPaint)
Buildings	Clip I, EGG/Pubs, ABODES (see also Homes, City skyline)
Bull	Pic, ASTROLOGY/Clip I, COW
Bullhorn	Pubs, COL 2&3/Pubs, DINGB
Bus	Pubs, AROUND TOWN
Butterfly	Pic, ANIMALS/Clip I, BUGS
Calendar	Pubs. CALENDAR/Pubs. DESK
Candle	Clip I, MUSIC THINGS
Cannon	Pic, FUN 2
Capitol	Pic, BUSINESS 2
Cardinal, bird	Clip I, BIRD 2
Card suits	Pubs, DINGBATS
Cards, playing	Pic, FUN I
Cart	Clip I, WHEELS 2
Cash register	Pic, MISC 3
Cat	Pic, AN/Pic, HOL I/Clip ICAT
Champagne	Pic, HOLIDAY I&2
Cherry	Clip I, EGG
Christmas	Pic, HOLIDAY 2
Cigarette	Pic, SYMBOLS
City skyline	Pic, BUSINESS 2
Clipboard	Pubs, COL 2&3/Pubs, DESK
Clown	Pic, PE 2
Coffee	Pic, HOME
Coins	Pic, MONEY
Column headings	Pubs, PHRASE & all Pubs art
Compass	Clip I, BOATS
Computer	Pic, BUS I/Pic, MISC 2/Pubs, COL 2&3/Pubs, DESK Pubs, DINGBATS

Covered wagon	Pic, MISC 3
Cow	Clip 1, COW
Crab	Pic, ASTROL/Clip 1, SHELLS
Credit cards	Pic, BUS 1/Pubs, DINGBATS
Cricket	Clip 1, BUGS
Crystal ball	Pic, FUN 1
Cupid	Pic, MISC 3/Clip 1, CUPID
Currency	Pic, MONEY
Dance	Pic, PE2/Clip 1, CUPID/Pubs, COL 3/Pubs, DINGBATS
Deer	Clip 1, COW
Dish	Clip 1, SW
Diving	Clip 1, BA
Dogs	Pic, ANIMALS/Pic, MISC 1/Clip 1, CAT
Donkey	Clip 1, COW
Doors	Pubs, ABODES
Drafting tools	Pic, MISC 2
Drawer pull	Clip 1, SW
Eagles	Pic, AN/Clip 1, EAGLES
Easel, artist	Pubs, DINGBATS
Egg	Clip 1, EGG
Eight ball	Pic, FUN 2
Elephant	Pic, ANIMALS/Clip 1, APE
Envelopes	Pic, BUS 2/Pubs, COL 2&3/Pubs, DINGBATS
Europe, map	Pubs, EUROPE
Eye	Pic, PEOPLE 2
Faces	Pic, PEOPLE 2/Clip 1, HEAD Pubs, DINGBATS
Figures, body	Pic, PEOPLE 1
Files & cabinets	Pic, BUS1/Pubs, COL 2&3
Film, movie frames	Clip 1, EGG/Pubs, BORDERS 2
Fingerprint	Pic, FUN 1
Firecracker	Pic, HOLIDAY 1
Fish	Pic, ANIMALS & ASTROLOGY
Fishing	Clip 1, SPORTS
Flags	Pic, HOL 1/Clip 1, BOATS/Clipl, SYM POL/Pubs, DING
Flowers	Pic, NATURE/Clip 1, PL/Pubs, COL 3/Pubs, FRENCH
Fly	Clip 1, BUGS
Football	Pic, PEOPLE 1/Pic, SPORTS/Clip 1, SPORTS/Pubs, DING
Footprints	Pic, FUN 1 (animal & human)
Formats, nwsltr	Pubs, FORMATS 2 & 3
Frames, picture	Pubs, BORDERS 2/Pubs, DING
Franklin, Ben	Clip 1, AMERICANS
French fries	Pic, FUN 1 (see hamburger)
French horn	Clip 1, MUSIC THINGS
French manuscript	Pubs, FRENCH
Frog	Clip 1, SNAKES
Gifts	Pic, HOL 2/Pubs, DINGBATS
Giraffe	Clip 1, CAT
Globe, world	Clip 1, MUSIC THINGS
Golf	Pic, SPORTS/Pubs, DINGBATS
Guitar	Pic, FUN 1/Clip 1, MUS THING
Gymnastics	Pubs, DINGBATS
Halloween	Pic, HOLIDAY 1
Hamburger	Pic, FUN 1/Pubs, AR/Pubs, DINGBATS
Hammer	Clip 1, EGG
Hammock	Clip 1, BOOK
Hands, human	Pic, SYM/Clip 1, MUSIC/Pubs, DINGBATS
Harp	Clip 1, MUSIC THINGS
Hat	Clip 1, COW/Pubs, DINGBATS
Hawk	Clip 1, BIRDS
Helicopter	Clip 1, PLANES
Hen	Clip 1, BIRDS 2
Hockey	Pubs, DINGBATS
Horse	Pic, ANIMALS
Horseshoe	Clip 1, SW
Hotdog	Pubs, AR/Pubs, DINGBATS
Hot tub	Pubs, CARTOONS
Hourglass	Pic, SYMBOLS
Houses	Pic, HOME/Pubs, ABODES
Illuminated script	Pubs, FRENCH
Imagewriter	Pic, MISC 2
Jewish symbols	Pic, MISC 2
Jolly Roger	Clip 1, BOATS
Kangaroo	Pic, MISC 1/Clip 1, CAT
Kettle	Clip 1, BOOK
Key	Pic, SYMB/Clip 1, SW
Keytag	Pubs, DINGBATS
King, Martin L.	Clip 1, AMERICANS
Lantern	Clip 1, POLE
Light bulb	Pic, FUN 1
Lighthouse	Clip 1, NUKE
Lightning	Clip 1, POLE
Lincoln, Abraham	Clip 1, AMERICANS
Lion	Pic, AN&AS/Clip 1, APE
Lips, human	Pic, PEOPLE 2
Lock	Pic, SYMBOLS
Magician	Pic, PEOPLE 1
Mail	Pubs, COL 2&3
Mailbox	Pic, HOME
Maps	Pic, BUS 1/Pubs/EUROPE/Pubs, DINGBATS
Marquee	Pubs, AROUND TOWN
Masks	Pic, SYMBOLS
Megaphone	Pic, FUN 1
Microphone	Pic, BUS 1
Mines, warfare	Clip 1, BOATS 2
Moon	Pic, NATURE/Clip 1, LUNA
Motorcycle	Pic, TRANSP/Clip 1, WHL 2
Mouse, rat	Pic, ANIMALS/Clip 1, CAT/Pubs, COL 3
Music	Pic. FUN 1/Pubs, COL 2/Pubs, DINGBAT
Musician	Clip 1, MUSIC
Newsletter Heads	Pubs, COL 2&3
Newspaper page	Pic, Bus 1/Pubs. AROUND
Notebooks	Pic, HOME/Pubs, DESK
Nuclear power	Clip 1, NUKE
Ono, Yoko	Clip 1, BIRDS
Optical illusions	Pic, FUN 2/Clip 1, POLE
Orchid	Pic, NATURE
Out basket	Pubs, COL 3/Pubs, DESK
Owl	Clip 1, BIRDS

Packages, gift	Pic, HOLIDAY 1 (See gift)
Painter	Clip 1, MUSIC
Palm trees	Clip 1, PLANTS/Pubs, DING
Paper clip	Clip 1, SW
Paper dolls	Pubs, COL 3
Paper airplane	Clip 1, EGG
Pencil	Pic, HOME/Pubs, DINGBATS
People	Pubs, CARTOONS (see also figures & faces)
Piano	Pubs, COL 3
Picnic	Clip 1, MUSIC
Pie	Clip 1, EGG
Pig	Clip 1, COW
Piggy bank	Pic, MONEY
Pinwheel	Pubs, DINGBATS
Plants	Clip 1, PLANTS (see various flowers)
Push pin	Pic, HOME
Rabbit	Pic, HOLIDAY 2/Clip 1, CAT
Raccoon	Clip 1, CAT
Radio	Pic, BUSINESS 1
Rain	Pic, NATURE
Ram	Pic, ASTROLOGY ASTRONOMY
Rocking chair	Clip 1, BOOK
Rose	Pic, NATURE
Rulers (FOR MAC)	Pubs INTRODUCTION
Safety pin	Clip 1, SW
Sailing	Pic, SPORTS/Clip 1, BOATS
Santa Claus	Pic, HOLIDAY 1
Scales	Pic, ASTROLOGY
Scissors	Pic, SYMBOL/Clip 1, DATA/Pubs, DESK
Scorpion	Pic, ASTROLOGY
Screwdriver	Clip 1, EGG
Scroll	Pic, MISC 3/Pubs BORDER 2
Scuba	Pic, PEOPLE 1
Shakespeare	Pubs, LITERARY
Shamrock	Pubs, COL 3
Shell, sea	Clip 1, SHELLS
Signs, highway	Pubs, DINGBATS
Skull & crossbones	Clip 1, HEADS
Snakes	Clip 1, SNAKES
Snowflake	Pic, HOLIDAY 1/Pubs. COL 3/Pubs, DINGBATS
Snowman	Pic, HOLIDAY 1
Soccer	Pic, SPORTS/Clip 1, SPORTS
Spa	Pubs, CARTOONS
Space flight	Clip 1, LUNA
Spider	Clip 1, BUGS
Sports	Pubs, COL 2&3/(See specific sport)
Squirrel	Clip 1, CAT
Stamp	Pic, BUS 1/Pubs, COL 2&3
Starfish	Clip 1, SHELLS
Stars	Pic, SYMBOLS
Statue of Liberty	Clip 1, SYMBOLS, POLITICAL
Stencil Letters	Pubs, STENCIL
Stepladder	Clip 1, SW
Stop sign	Pic, MISC 2
Suitcase	Clip 1, MUSIC THING/Pub DING
Sun	Pic, NATURE
Swimming	Clip 1, BA
Sword	Pic, SYMBOLS/Clip 1, SW
Target	Pic, FUN 1
Telephone	Pic, BUSINESS 1/Clip 1, POLE
Tennis	Pic, SPORTS/Pubs, DINGBATS
Thanksgiving	Pic, HOLIDAY 1
Thundercloud	Pic, NATURE
Tiger	Pic, ANIMALS
Track, running	Clip 1, BA/Pubs, CARTOONS
Train	Clip 1, WHEELS
Trees	Pic, NATURE/Clip 1, BIRD 2
Trowel	Clip 1, EGG
Trucks	Pic, TRANSP/Clip 1, WHEELS
Trumpet	Clip 1, MUSIC THINGS/Pubs, DINGBATS
Trunk	Clip 1, MUSIC THINGS
Turkey	Pic, HOLIDAY 1/Clip 1, BIRD 2
Turtle	Clip 1, SNAKES
TV	Pubs, DESK
Twain, Mark	Pubs, LITERARY
Umbrella	Pic, HOME/Clip 1, BOOK/Pubs, COL 3
Uncle Sam	Clip 1, SYMBOLS, POLITICAL/Pubs, CARTOONS
Unicorn	Pic, ANIMALS
USA	Pic, BUS 1/Pubs, EUROPE/Pubs, USA
Valentine	Pic, HOLIDAY 2
Van	Pic, TRANSPORTATION
Violin	Clip 1, MUS/Clip 1, MUS THNG
Volkswagen	Pic, TRANSPORTATION
Waiter	Pubs, CARTOON/Pubs DING
Washington, Geo.	Clip 1, AMERICANS
Watch (time)	Pic, BUS 1/Clip 1, BOOK
Weightlifting	Clip 1, BA
Whale	Clip 1, SHELLS
Wheat, sheaves	Clip 1, PLANTS
Wheel, ship	Clip 1, BOATS 2
Wishbone	Clip 1, SW
World map	Pic, BUS/Clip 1, BOOK
Yacht	Pic, SPORTS
Zodiac signs	Pic, ASTRONOMY ASTROLOGY

LEGEND:

Clip 1	Clip 1, Frazier, Peper & Associates
Pubs	Click Art, Publications
Pic	McPic!, Volume 1

Following the disk identification is the file, document, or page on which the image is to be found. Sometimes it is shortened to 2-3 letters, sometimes spelled out, depending on amount of room available on the line.

If other clip art disks are sent to me on a loan basis, I will add the images on them to this index and return a corrected index with your disk.

PHILIP C. RUSSELL
430 SW Crest Circle
Waldport, OR 97394
(503) 563-2501

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Gentlemen,

A great deal has happened here at Brigham Young University since I last wrote to you. I hope that I can catch you up on the latest details so that you can be as up to date as possible.

Most exciting of all is the introduction of serious programming tools for the Macintosh. There is a user's group here on campus (The Association of Computor Programmers) that has dedicated itself to the education of Macintosh owners in the area of program development for the Macintosh. This group meets weekly on campus and reviews the latest programming languages and developments for applications on the Macintosh. So far we have students using Basic, C, Pascal and Modula II.

The Modula II is an interesting story. It was ported over right here in Provo, Utah at the Modula Institute. It is not a native compiler (does not generate 68000 code) but is an interpreted language. This is a drawback in that it takes quite a while for the compiler to generate the code and link it. But once you have the compiled "M-Code", it runs at about 70% of the speed of regular assembly code. This is certainly fast enough for real applications on the Macintosh. Best of all this language is available *now* and only costs $90.00! The people at the Modula Institute have not made a final decision on licensing agreements for Modula II.

For those who are interested, Modula II also supports full access to the ROM & Quickdraw routines. The Modula II language is similar to Pascal in many respects and is a high level language.

The documentation that comes with Modula II is not adequate for first time users who will probably need to get a copy of N. Worth's Modula II programming book. To access the toolbox, you will also need to have a copy of "Inside Macintosh".

The Aztec "C" appears to be a very nice implementation but has a very nice price tag to match. It does generate 68000 code and compiles very quickly. The documentation is fairly comprehensive and seems complete. Most of the programmers here like it very much.

The Pascal just got here and the jury is still out on it. The user's group hopes to have some public domain software for student use soon and would be interested in trading with students who are developing software at other schools.

All in all, the Macintosh continues to sell in great numbers at the bookstore and is gaining a great deal of popularity among students and faculty alike.

MARK F. WRIGHT

Dear Editor:

While a significant amount of excellent software is now beginning to appear for the Mac, there appears to be a major omission: word processors. Since word processors are probably the most important class of applications software, this is a serious problem. I think it would be very helpful if your magazine would do some investigative reporting and informed us what the situation with respect to this problem is.

First of all, why is Microsoft unable to get *Word* out the door? (When the describe it as 'the *Word* you've been waiting for' they aren't kidding.) Since Microsoft has had access to the Mac longer than any other software developer, they cannot use the excuse that they first have to learn how to program the Mac. Is there any basis for hoping that they will actually succeed in releasing *Word* in the foreseeable future?

An even more interesting question is: why is Apple sitting on an upgraded version of MacWrite? According to the November issue of *Macworld* Apple announced a new version of *MacWrite* at the same time that they unveiled the Fat Mac. Apparently Apple had decided to release it, and then changed their plans too late for *Macworld* to kill the story. The MacVaporwrite described in *Macworld* does not overcome all of *MacWrite's* shortcomings since it still does not provide for horizontal scrolling and still does not permit more than one document to be opened at once. Nevertheless, since it includes virtual memory and has some other nice features, it represents a very badly needed improvement. When I called Apple to inquire about the upgrade, the person I spoke to was duly evasive, but I obtained the distinct impression that the decision not to release it was the result of marketing decisions, rather than technical problems. It would be very interesting to know why it has not been released in light of the fact that a more powerful word processor is desperately needed.

Finally, is anyone else even trying to produce a word processor for the Mac? I understand that a Macintosh version of *Appleworks* is under development. Will it run on the little Mac, and will it have a more powerful word processor? A list of Apple 32 developers released by Apple last April indicated that Palantir was planning to write a Mac version of their word processor. Are they proceeding with this project, or have they abandoned it?

Word processing is such a crucial application that Apple should have provided a more powerful word processor from the very beginning. It is a scandal that more than 9 months after the Mac's introduction the only word processor available is a memo-writer that is not intended to be used for long documents.

Sincerely,
Roland Buck

P.S. Good luck with your new magazine format.

Dear Sirs

Now that S. T. Mac is dead, who's going to continue with the "ROBOT" contest? They must have received many entries by now but I'm unaware of any contest results. I want to see all the different ways that people can draw robots with Macpaint! Doesn't everybody? With the whole Soft-Talk empire down and out, who's going to pick up the pieces?

And especially that ROBOT contest!

Chris Casady

Dear MACazine:

If at all possible, please help spread the word about a new bulletin board exclusively dedicated to the Mac. Mac-Link is online 24 hours a day. To access it all you need is a telephone modem and a terminal program such as MacTerminal, MacTEP, or even BASIC's Terminal. Be sure to set your software up for 8 bits, 1 stop bit, no parity, full duplex, and either 300 or 1200 baud speed. The BBS, located in Providence, Rhode Island, can be reached at (401) 521-2626. Sysop is Andy Nulman. Passwords are free to all Macintosh users. Lots of great info and even public access data can be had for those willing to share their own ideas and tips on the Mac-Link.

Thank you,
Andy

Slide Show Magician

A Review

by NEALE McGOLDRICK

Slide Show Magician *is a simple, but valuable addition to Macintosh software. For a price hardly more than that of a clip art disk, this program enables you to make slide shows out of any combination of images. This excellent program adds to the versatility of* MacPaint, *and should have broad applications in business and education, in addition to offering a new version of family "home movies." Thanks to the portability of the Macintosh,* Slide Show Magician *will enable sales personnel to use the Mac as a tabletop slideshow for presentations which can then be followed with more detailed analysis on using the traditional business software. In the classroom, students and teachers can prepare programs about maps, scientific demonstrations, present creative writing assignments, etc. At home, the Slide Show Magician is likely to provide entertainment in the tradition of the puppet show as well as a new setting for the family collection favorite MacPaint drawings.*

Particularly useful for kids who want to put their images together for their friends.



Figure 1 SLIDE SHOW LOGO

CREATING A SHOW

Working with the *Slide Show Magician* is as simple as working with MacPaint. All of the commands appear on the screen along with sufficient help screens to make the thirteen-page owner's manual almost unnecessary. Once the graphics are prepared, it will probably take you less than an hour to put together the sequence, add the special effects and be ready for a presentation. Modifications to the program (removing or adding images, changing effects, etc.) can be done at any time and the *Save As* feature facilitates making several different versions of a show without having to start over from scratch.

To create a program, you begin by assembling the images on a MacPaint disk. Graphics from *MacWrite*, *Multiplan* and other programs can be used with the Screen Dump command (Command, Shift, 3). Once the images are complete, they need to be assembled onto one disk for the preparation of the show. The features available for working on a program are excellent. They include adding or deleting images, changing the order of images, running a demo version of the show, reviewing each individual image in "full size" (Figure 2).

Slide Show Magician uses the whole screen. Thus graphics created in *MacPaint* can be extended beyond the active window, or conveniently framed. Using the *Save As* feature while working in *MacPaint* enables you to create a series of slides in perfect registration.

The movement from one slide to another can be done with an array of cinematic techniques including dissolves, a wide variety of wipes, iris in and out, and some unusual effects like "checkerboard" and "Venetian blinds." The speed of the wipe can be set from slow to fast, and the duration of each individual slide can be set in a range from two seconds to fifteen minutes (*Figure 3*).

Using *Slide Show Magician's* text editing feature, several lines of text can be added to any slide, appearing either as a block or word by word. The text can be placed anywhere on the screen, and you can even add a subliminal message of up to thirty characters (*Figure 4*).

Although a *Slide Show Magician* program is set to be run automatically, you have the option of inserting control commands enabling the viewer to advance, back up, or jump particular slides, as well as to quit the program. These "buttons" can be created in a variety of sizes and placed anywhere on the screen. You can even decide to make the buttons invisible, on the screen but accessible to anyone who knows the program (*Figure 5*). You can also print out information about the slide show in order to do some of the planning on paper (*Figure 6*). For long shows, having a "Print Catalogue" (from *MacPaint*) of the images may also be useful in planning. A variety of cursors enable a viewer to draw on the screen with a thin pencil or a thicker line (like the paintbrush), but these addtiions do not affect the original show (*Figure 7*).

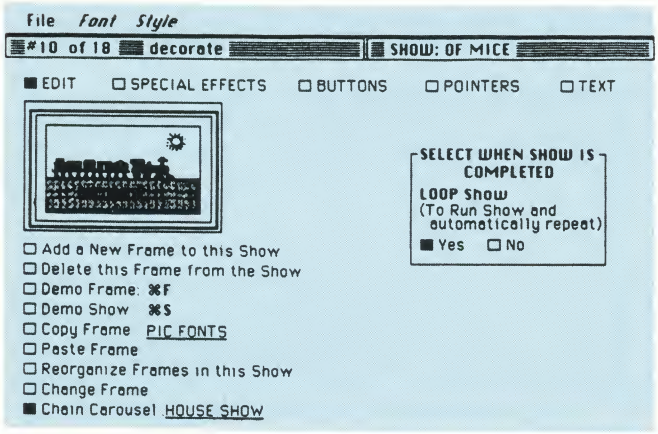


Figure 2 SCREEN DUMPS OF EDIT
The edit screen offers a reduced image of each image in the slide show as well as the title and location of the slide in the sequence.

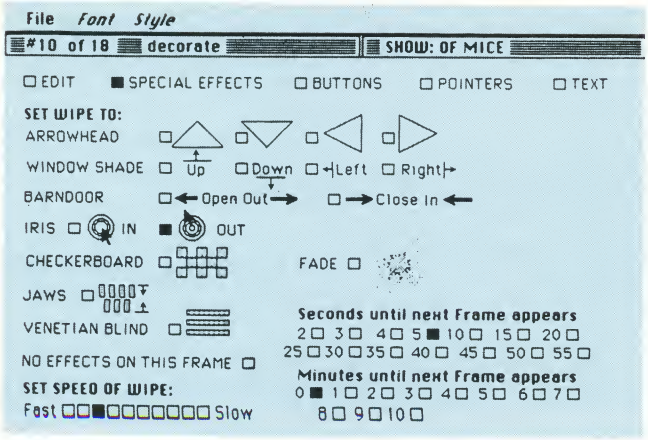


Figure 3 SPECIAL EFFECTS
Special effects determines when each new slide will appear on the screen. Slide Show Magician *will not work at the speed of animation, but at two seconds between slides, it is possible to create a smooth transition through a series of stages, like the growth of a chart. Experimentation is the best way to determine how different effects look at different speeds.*

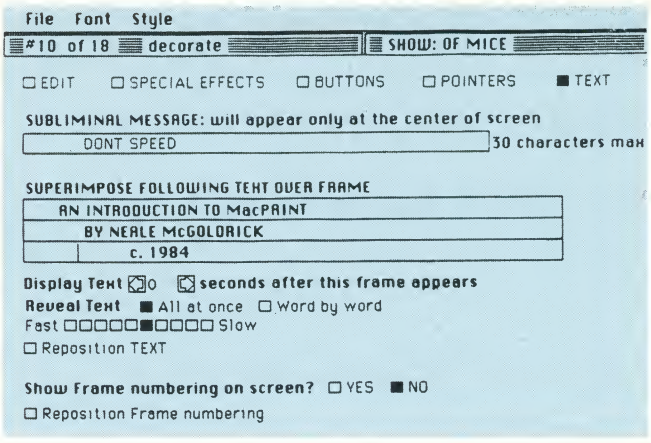


Figure 4 TEXT
Text can be added to any slide in the show and placed anywhere on the screen.

THE SIZE OF THE SHOW

Theoretically, the *Slide Show Magician* can handle an infinite number of "slides" chained in files of fifty. However, for practical purposes, you are limited by disk space.

The size of the program depends on the complexity of the individual images. As a rule of thumb, a show which must be contained on one disk is limited to about twenty slides. (Slides can be repeated without affecting this total.)

With a second disk drive, you can work with about fifty "slides" because the second disk does not need to hold any applications. A second disk drive is highly desirable for this program, since the creation of a show would otherwise require a great many disk swaps in order to transfer the *MacPaint* documents to the *Slide Show Magician* disk.

PROJECTING THE SHOW

Once the show is complete, it is very easy to run. What is more, it can even be designed so that it can be run by anyone with a Macintosh, even those who do not have the slide show program. This is possible because there are two applications for the program, one for creation of the show, and a separate one for the "projector." Thankfully, the latter is not copy protected so that you can move it to any disk along with the pictures which make up the program. Specific instructions for creating such "copies" are available in the manual.

Caveat Emptor

While the *Slide Show Magician* can easily be credited as one of the best new programs for the Macintosh (and a "best buy" at under sixty dollars), a few modifications would still be nice to see in any upgrade.

1. While you can set the buttons and other parameters on one slide and then copy these parameters onto the other slides, no command will do this for all the slides in a program. That command would be particularly beneficial in longer shows.
2. The size of the text which can be entered on the screen is limited to twelve point type, uncomfortably small in a slide show. Nor can you change the fonts available for such on-screen messages. (You can, of course, write in any MacPaint document with any available font.)
3. When working on the details of the program it would be helpful to have a "next" button, rather than having to go to the picture menu and select the desired picture each time.
4. The problem with the limitations in the size of the show will only be remedied by the arrival of two-sided drives or the use of a hard disk.
5. The relatively small size of the current Mac screen limits the uses of a show, but as large screen projection becomes available for the Mac, the value of a program like *Slide Show Magician* can only increase.

Neale McGoldrick is the author of Applecations for MacPaint *forthcoming from Addison Wesley.*

Slide Show Magician
Magnum Software
$59.95
21115 Devonshire Street
Chatsworth, California 91311
(818) 700-0510



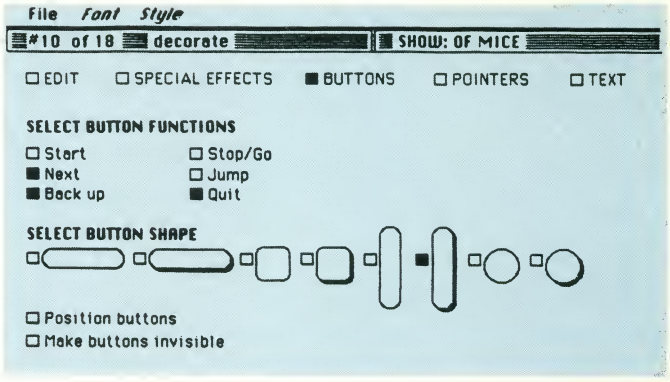


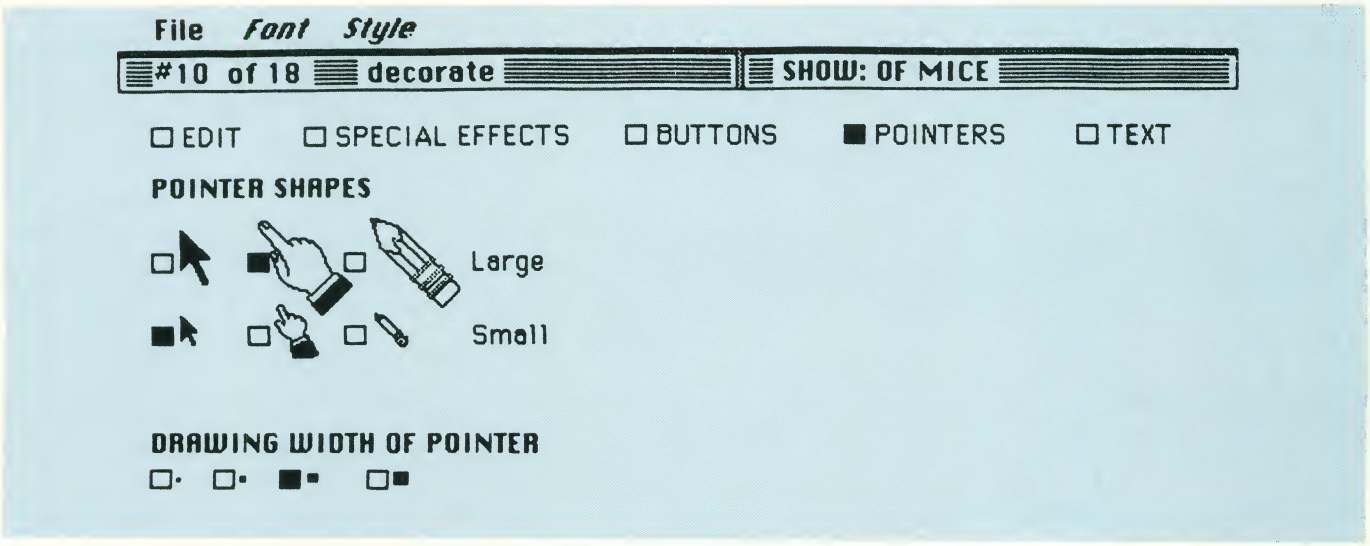
Figure 5 BUTTONS
These buttons are placed anywhere on the screen and can be invisible. Be sure to put a QUIT button in any show which is programmed to run as a loop!

Figure 6 PRINT OUT
This feature provides detailed information of the special effects, buttons, and text for each of the slides in the program. By combining this data with a "print catalogue" of the images, you can do a good deal of "storyboarding" on paper.

```
                                The SLIDE SHOW MAGICIAN    Date: November 20,1984
INTRO TO MACPAINT                2 Frames    LOOP: No      Chain: No
-------------------------------------------------------------------------------
FRAME #1     NAME: GEOMETRICAL SHAPES
    EFFECTS: WIPE: IRIS OUT            SPEED: 8        Next Frame: 2 Sec.
    BUTTONS: Start Next Back-up Quit                 TYPE:Horiz/Shad  VISIBLE:Yes
   POINTERS: Large: Arrow        Small: Arrow
       TEXT: Subliminal  "                                    .
             Superimpose "                                    .
                         .                                    .
                         .                                    .
             Delay until Text appears: 1  Sec.      Reveal Word by word   Speed:2
             Font: Geneva       Style: Normal       Frame Numbering: No
-------------------------------------------------------------------------------

FRAME #2     NAME: MIRRORS 2
    EFFECTS: WIPE: ARROWHEAD Right     SPEED: 8        Next Frame: 10 Sec.
    BUTTONS: Next Back-up Quit                       TYPE:Horiz/Shad  VISIBLE:Yes
   POINTERS: Large: Arrow        Small: Pencil
       TEXT: Subliminal  "                                    .
             Superimpose "          MacPaint Mirrors          .
                         .                                    .
                         .                                    .
             Delay until Text appears: 2  Sec.      Reveal All at once    Speed:3
             Font: Chicago      Style: Shadow       Frame Numbering: No
-------------------------------------------------------------------------------
```

Figure 7 POINTERS
Any of these pointers can be used to draw directly on the screen during a slide presentation. Simply drag the mouse. Such additions to a screen cannot be saved, but can be used to highlight aspects of a presentation, much as you might mark on a transparency for an overhead projector or use a pointer during a conventional slide show.



MACintosh, The International Business Machine And Other Stories

(MAC BUSINESS is, as you have probably already gathered, a new business column which will appear monthly in The MACazine. Questions, comments and correspondence for Pam Roth should be addressed to MAC BUSINESS c/o Icon Concepts The MACazine, P.O. Box 1936, Athens, TX 75751. Ed.)

Yes, Mac is a business machine, an international one at that. And that's what this column is about: Macintosh as a business machine, a tool for operating a small business and completing corporate tasks. A word that is close to becoming cliche comes to mind: window. Consider this column a window on the world of Macintosh in business. It's a large world. Many issues to ponder. In the US and around the world businesses have common problems to solve, and Macintosh is an excellent tool for solving business problems.

Each month I deal with timely issues of Macintosh in business. Here's the list I have so far. All of the topics have something to do with using Macintosh in business or learning how other people are using Macintosh in business. Software, hardware, integration, peripherals. Keep in mind that I don't plan to go down the list one by one. No, that would be boring and not the point of the column. I will take each month as it comes. I will discuss as many issues and respond to as many comments and suggestions as is reasonable. I intend to provide you with information to make your use of Macintosh easier and more efficient. But I also want to provide background information about products and the industry.

- Communications services and equipment.
- To network or not to network?
- Do you need a printer buffer and/or other buffer for multi-tasking?
- Vertical markets: legal, medical, dental, real estate
- Profiles of software companies: take a segment of the market and examine a number of businesses targeting those segments
- PC/Mac communications
- International business use
- Spreadsheets for business planning and financial management
- File managers
- Document preparation: MacWrite, MacPaint, ThinkTank, MacPublisher, Microsoft Word™ for Macintosh
- Presentation graphics: Microsoft Chart™
- Mac in business school: Profile Boston College School of Management
- Profiles of users
- New and exciting products
- Comments about MAC
- Creating the complete business plan from spreadsheet to presentation graphics to document presentation
- Entrepreneur who aren't Steve Jobs—what happened to the garages of his contemporaries.
- Comments about computer books
- About developers meeting the needs of their intended users. The bottom line: did they do their homework? Do they know their audience and are they providing what the audience needs?
- MAC consultants and VAR—people and groups who are truly supporting Macintosh, not merely selling them as fast as the inventory comes in the back door.
- Copyright, data security, and data protection issues
- Can you do on MAC what you can do on other machines, and do you want to? In some cases, yes; in some cases, no.
- Documentation and training
- Expectations: we expect more than we used to. Where's the software? Where's the color?

A challenging task. I'm in the market for a new challenge, so I accept the task. I promise to create an interesting combination of overview and detail. To be timely, to be accurate. And, whether you know it or not you're in this with me, and I encourage your response. As a matter of fact, I look forward to it. I want to know what you have to say. You see, I have a goal—to make this column one of the reasons you read this magazine month after month.

Why do we need a column like this? Because, whether we like it or not, computer stores and dealers cannot afford to supply the information you need, they're too busy selling machines. I'd say maybe 7% of the microcomputer sales force provides the information that you really need. If you're one of those people you know you are—keep up the good work. Writers and instructors pick up where manufacturers and sales personnel leave off. Consumers of other products—stereos, cars, homes, and boats—have been aware of this for years and recently entrepreneurs have been doing something about it for the computer industry. Many groups have sprung up as adjuncts to computer stores or as independent consultants, training organizations, and publishers. The premise is: "now that consumers have the equipment, let's help them use it."

That's where I fit in. I don't sell computers. I help people use them. I am always learning new programs and new tools. With all the software available today, I can't imagine anyone being an expert in all areas or even more than two or three. I prefer to avoid the phrase. I won't tell you what I am an expert in, instead I will tell you what I specialize in: document preparation tools, that is, word processing and utilities such as glossaries. What does that mean? I have a clear idea of what I like and dislike about word processing, what features are good for different tasks, and what programs I recommend and those I avoid. I am about to add file managers to my list and, soon, spreadsheets.

How then do I do a general column on using Macintosh in business? I listen to and talk with many people. I find out what you want to know and track down responses. It usually isn't a matter of finding the right answer, those don't exist, but rather several alternatives and methods for selecting one that will do the job for a reasonable amount of time and money.

My background includes 10 years of professional writing and systems analysis, seven of which have been in the computer industry. I have a law degree earned nights while working fulltime as a technical writer (New England School of Law, JD, 1983), a technical writing degree (Rensselaer Polytechnic Institute, MS, 1977), and a literature degree (New College of Hofstra University, BA, 1975). I've taught writing about computers at a number of community colleges and will be teaching *Computers and Law Office Applications* in the Legal Assistants Program at Boston University during the Spring of 1985. In spite of all the paper I consider myself self-taught. I learned about and continue to learn about computers and business on my own and on the job. As for writing, well, I am a confirmed writer. I'll never stop. And, now for the first entry...

Early Consumption of Macintosh

Why people are buying Macintosh when they could have a PC or compatible with more memory and more software for less money? The IBM PC and compatibles have had a headstart, so prices began to come down months ago. One look at Apple's marketing literature tells us it's the appeal of the machine. But there's more to it than that. Not that many of us have the extra two or three thousand dollars to plunk down on surface appeal. Of course not and below the surface we have found enough to satisfy the initial purchase: sturdy keyboard with good placement of the keys, excellent resolution, an operating system that does not require technical knowledge to use, and the inclusion of a useful word processor and a useful as well as entertaining paint program. Put it all together and *voila!* the beginnings of Macintosh.

Yes, Macintosh is incomplete, but we have barely seen the tip of the iceberg—Macintosh has only just begun. With the 512K now available, we get greater use of the existing programs and will begin to see software that helps solve substantial business problems. But that's the future, as business people and computer users we must deal with the machine and the software as it exists.

Let's zero in on MacPaint for a minute. MacPaint and Macintosh have brought the ability to solve communications problems to a price level never before approached. That last line sounds like a phony sales pitch and if I were writing about any other computer I would have removed it. But with Macintosh it isn't phony and it isn't a sales pitch. It's true, proven by Macintosh during the few months it has been available. When Macintosh and MacPaint appeared marketing brochures, newsletters, illustrated reports, illustrated proposals, advertisements, catalogs, and any other combinations of text and graphics instantly became much easier to produce.

MacPaint created an exciting atmosphere and led us to believe that more exciting things were on the way. Hang on, they are. Do you realize what's happened to our expectations over the last few years? Now that we're accustomed to microcomputers appearing everywhere we look, we can no longer wait for the tools to use them. Or, so it seems. I can understand that a computer is useless without software and a problem to solve, but we need to be patient. Besides, what choice do we have?

Confirmed Computer Skeptic Falls Hard for Macintosh

It may not sound like it, but I am and will remain a computer skeptic. A computer must prove itself to me. When I first saw Macintosh back in January, a few days before its official annoucement, my response was "that's it. It's odd looking. The screen is so small." The same response I have heard many times since. But then I sat down for a demonstration. And, of course, was awed.

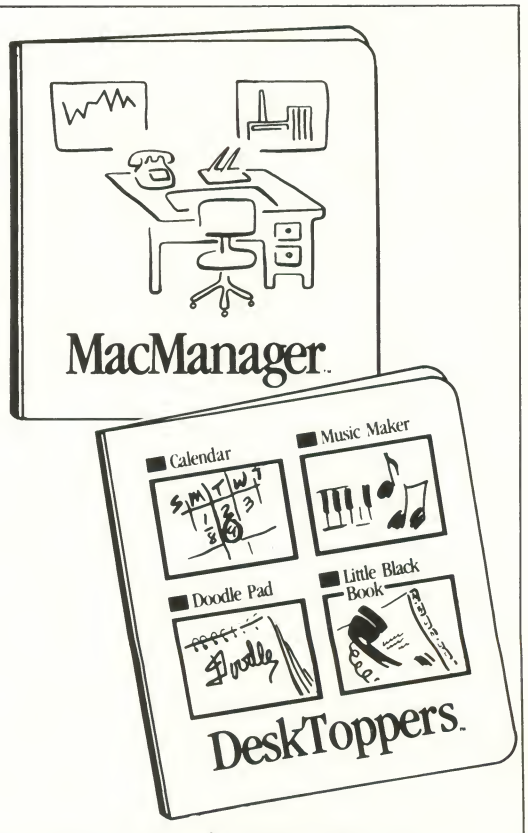
I have been using Macintosh since the beginning of May. I have created brochures, articles, even a book, all with Macintosh. At the time I had a Fortune 32:16 multiuser system with 512K RAM, a 10 megabyte disk, a UNIX operating system, a Wang-like word processor, and a second terminal. Although perfect for writing books, articles, and proposals, the reason I purchased it, it was a nuisance to start up just to do a quick memo or short letter. Macintosh quickly became my correspondence machine.

With the prices for memory dropping and rumors about the IBM PC/AT emerging, I contemplated moving from Fortune to Macintosh as my production machine, that is, the machine I use for heavy duty writing. I was hesitant, reluctant to lose the advanced editing features, such as supercopy and supermove (which is equivalent to having several windows on the screen at the same time), unlimited document size, glossary, and multi-tasking.

The conversion was not difficult: I didn't retype anything, I simply stopped using one and started using the other. But then, I didn't need to transfer a database. Nevertheless, I do miss several features of Fortune:Word, especially the unlimited document size. Writing a book with MacWrite files that hold no more than 8½ pages is aggravating and requires extra time, planning, and file manipulation, which I would rather not do at all or expend on another project. I am looking forward to the new MacWrite that allows 50-page documents on a 128K Mac and 250-page documents on a 512K Mac. From what I have heard the 512K Mac with the current version of MacWrite allows up to 30 pages in a document. However, I have not tested any of these numbers. I also miss a glossary and its ability to store words and phrases that I use over and over when writing a computer book . . . "drag," "click," "double click," or "and press the ENTER key." I look forward to Microsoft Word™ for Macintosh . . .

A final thought for now: even with software you need to know what to do with it. You need to combine a knowledge of business administration, the idiosyncrasies of your particular business, and the rules of the software and the hardware.

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M.U.G. SHOTS

USER GROUP REPORT *by Charlie Jackson*

User groups are springing up everywhere! This new column will be dedicated to reporting on what's happening with these groups throughout the country and even internationally.

This month I want to address the issue of the clout that user groups can wield in the microcomputer marketplace. One recent event points out that they can be a very significant factor. This event was the reaction to the 512K upgrades.

To say that the $1,000 price tag stirred up some controversy is a bit of an understatement. How about a hornet's nest? How about downright outrage? The fact that the vast majority of owners were *very* unhappy with the price became clear as user groups had their monthly meetings.

Paul McQuillan, who heads up the Conejo Valley Mac User Group, a California group in the San Fernando Valley (just north of LA), sent a rather strongly worded letter to Steve Jobs of Apple on behalf of the entire group (and it's a big one). The letter raised several points, including: initial buyers of 128K Macs (those loyal, hardy souls) would end up paying more for a 512K Mac than someone who buys one now; the chips were estimated to cost $400 and Apple would get back the entire old board; Lisa upgrades had been free; and IBM had given free new keyboards to all IBM PCjr owners.

The letter got no immediate response from Apple, but copies that were sent to the media did. Christine McGeever, a reporter for InfoWorld (one of the most important and influential trade publications in the microcomputer business), took notice of it and, after doing some more research, wrote about the terrible reaction to the upgrade price.

In subsequent issues she wrote about Apple's response, more user reactions, and that Steve Jobs had not responded to InfoWorld or Paul's letter. All this got started because people in the computer industry recognize that user groups can be very influential.

While at Comdex in November, I ran into Randy Battat, the product manager at Apple for the Lisa and Macintosh. When I told him of my affiliation with my local user group, he was *very eager* to discuss with me the reaction to the upgrade.

We met later and had a long talk about the whole thing. Randy made several good points about the upgrade from Apple's perspective. He said that Apple paid a premium for the chips, so they were quite expensive at the time. Further, the chips are soldered in because this improves reliability significantly. It is also more expensive.

Most important to realize, he said, is that the upgrade is not just memory chips, it is an entire circuit board with video circuitry, the 68000 chip, etc. The price for this is much more than simply the cost of the memory chips. The price for this is much more than simply the cost of the memory chips. And, unfortunately for Apple, the old boards that are returned cannot be used in new computers. That's against the law. The old materials can only be used for service spare parts (in fact, the main reason Apple wants the old boards back is so that bright tinkerers can't make their own little Macs from scratch).

In response to the Lisa upgrade and IBM PCjr keyboard arguments, Randy pointed out that both of these actions rendered obsolete a previous product, but that this is not the case with the Mac upgrade. The 128K Mac is still considered to be a viable choice. Apple estimates that of Mac sales, three-quarters will be 128Ks and only one quarter 512K machines.

Finally, Randy noted that the phenomenon of price erosion is not unique to computers and that it is something that Apple is not really able to control. If you buy the hottest new Porsche as soon as it hits town, you'll probably pay full price. If you wait a few months, you might be able to get a discount.

All this makes sense. Unfortunately, the damage is done. Too many people have lost their image of Apple as the maverick little company that isn't cutthroat like big bad IBM. So what went wrong? In retrospect, it seems that the problem was one of expectations. Too many of us were hoping for a $500 price tag. Maybe Apple should have leaked the fact that it would be around $1000.

Anyway, you can see from Randy Battat's response that there certainly is a perception that user groups are important. He even stated that he was willing to come speak to the group at a general meeting. Not only was Randy interested in speaking to our group, but so was Alain Rossman, a member of the team that developed the Macintosh.

In fact, once a user group can make its existence known, software and hardware manufacturers begin coming out of the woodwork, wanting to demo their products at meetings. Most realize that the best advertising is word of mouth and

that the user groups can get them exactly that. As they would have said in the late '60s—"Power to the User Groups!"

Charlie Jackson is Chairman of the San Diego MacIntosh Users Group. Send information about your users group to him at P.O.Box 26693 San Diego, CA 92126.

USER GROUPS & PUBLICATIONS

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Kent, WA 98032
(206) 872-2245

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Newsletter

SIG Mac; Washington Apple Pi, Ltd.
8227 Woodmont Ave #201
Bethesda, MD 20814
Thomas Warrick; (301) 654-8060

For info regarding elementary and secondary schools:
Apple Computer Clubs
PO Box 948
Lowell, MA 01853
(617) 452-9979

Publications

A+ Magazine ($24.97/12 issues)
Ziff-Davis Publishing Company
One Park Ave.
New York, NY 10016

IconConcepts—The MACazine
($18/year)
113 E. Tyler, P.O. Box 1936
Athens, TX 75751

Macintosh Typefaces—Reference
($14.95 + $2.50 + tax)
PO Box 271075
Escondido, CA 92027

MacNews—Guidebook to Products
($12)
110 Baldwin St.
Fall River, MA 02720

MacWorld ($30/12 issues)
Subscription Dept.
PO Box 20300
Bergenfield, NJ 07621
Editorial:
555 De Haro St.
San Francisco, CA 94107

Semaphore Signal (Free with serial #)
207 Granada Dr.
Aptos, CA 95003

The Macintosh Connection Newsletter ($35 for 10 issues)
Hi-Tek Publications
PO Box 99
North Salem, NH 03073

Macintosh Products

by Charlie Jackson & Sandy Erickson

A lot of new and interesting products showed up at Comdex this year. We made a special effort to check out the crop so we could report back on them. We even saw some items by accident that weren't really supposed to be on display. As you read this, please keep in mind that all of the following comments are very impressionistic, as opposed to thoroughly researched. This is not meant to be a review of the products, but rather just some hit and miss information.

• **JAZZ** We finally know the name of the long awaited Lotus product. Unfortunately, we will be waiting a while longer. The announced release date was 'late March.' By far and away this was the most important new product being shown. We saw demos of it and talked to reps who answered questions. It looks *very, very* good. It will require a 512K Mac and an external drive.

The word processing module is at least on a par with the Disk Based MacWrite, with some extras. It will be very easy to incorporate a spreadsheet or graph already created in Jazz, it will allow the word processor to receive what the communications module is bringing in, and it will allow merge-printing with data from the data base module.

The spreadsheet module will undoubtedly be the strong point of the program. It looks like it will be on a par with 1-2-3. It is not clear if it will be on a par with Symphony. There was no mention of a programming capability (macros). The big question mark in our minds is how much workspace there really will be on the spreadsheet when you're using a 512K Mac. They say that it has a matrix of 256 columns by 8192 rows, which is the same as Symphony, but we have seen Symphony run out of memory on a 512K IBM PC when 12 columns and about 1600 rows were used in a data base application (the users had to switch to dBASE). This happens because all the data must be in memory.

The data base module does have the capability to use forms for data entry (unlike 1-2-3, where you just put data in the cells of the worksheet). The data can be merged into word processing documents. The big question is again how much data will it actually be able to hold?

The graphics module looks good. It is very easy to create graphs quickly (six types: pie, line, bar, area, scatter, percent) and they are dynamic (they change if you change the numbers on the spreadsheet that they are based on). It was not clear how good the communications module is. It doesn't seem to have automatic logon capabilities.

Conclusion: A definite winner. This program will finally help the Macintosh make inroads into the business marketplace.

• **HYPERDRIVE** We had just heard about the possibility of a 10 megabyte internal hard disk and lo and behold, we saw one being demonstrated. It was *FAST*! It is not hooked up via a serial port. Instead, they rearrange the inside of the Mac a little, put it inside, and hook it straight to the board (the serial ports are notoriously slow). So, you still have the two serial ports available (one for your printer, one for your modem).

The drive can be divided up into 32 volumes, which is like having thirty-two different disk drives whose icons show up on the desktop. Any of these can be made inactive so that you don't have to deal with all of them all of the time. Password security is available, you can start up from the hard drive, and there is a BACKUP program.

The question marks are: Reliability, whether the company will be around for a long time (i.e., what

about service for a Mac that has been modified in a major way and has their 10 mb drive inside it?), and heat dissipation. There's a possibility that we may be able to get an evaluation unit for a while. We hope to be able to report more about this unit soon.

Contact: General Computer Company, 215 First Street, Cambridge, MA 02142, 617-492-5500. Shipping Date: Unknown.

• **CORVUS HARD DISK** The Corvus 10 megabyte hard disks were everywhere! Apparently Corvus gave a free hard drive to a lot of the exhibitors who were showing Macintosh products. The drives seem to be a good solid piece of equipment, although they are awfully large. They can be subdivided into volumes too. They don't seem as fast as the Hyperdrive, but for someone who has to get a hard drive *right now*, this seems to be the only choice.

Contact: Corvus Systems, 2100 Corvus Drive, San Jose CA 95124 408-559-7000. Shipping: Now.

• **TURBOTOUCH** This is a replacement device for the mouse. It is very much like a trackball with buttons on either side of it (so it doesn't matter if you're left handed or right handed). The unit does not move around, you just spin the ball. It makes for very fast, smooth movement of the pointer. It seems like a real quality product, as it should be at a price of $149.

Contact: Assimilation Process. 408-446-0797. Shipping: End of Nov.

• **RAMDISK SOFTWARE** This is the most important thing to get ahold of if you have a 512K Mac. This version is going to be called Mac Memory and cost $39. Not only will it set up some of the memory as a disk drive, it has a sliding scale on which you can choose how much memory to allocate to the RamDisk. We have been trying to use two different public domain versions of RamDisk programs and have had trouble with each of them. Look for a detailed report next month on using 512K Macs, which will include info on RamDisk software.

Contact: Assimilation Process. 408-446-0797. Shipping: End of Nov.

• **2-Sided External Drive** We saw a Haba double-sided drive working. The people who had it (a distributor) didn't even know that it was double-sided when they first got it. They formatted a new disk and wondered why it took twice as long, then they noticed that it said 800K on the disk when it was done! When they put in a 400K disk, it had no problem recognizing that this was a disk formatted for one side only.

By the way, all Mac disks, regardless of the brand name, can be used in a double-sided drive. Any advertising you see or hear about special disks that are double-sided (implying that others are not) is hype. When the time comes, don't pay more for "double-sided" disks.

Contact: Haba Systems, 15454 Stagg Street, Van Nuys CA 91405 818-901-8828. Shipping: Jan.

• **VIDEO DIGITIZER** The MacVision from Koala looked good. For $400 you get the digitizer hardware (a small box) and the software. No camera included. You can use any normal video camera with it, like you would with a VCR unit, or you can freeze frame something on videotape on a VCR and capture it.

Its sampling rate is *very* slow at once every five seconds, but the quality of the image looked good. The software is a desk accessory, so you can be working in MacPaint, go to the accessory, capture an image on disk, go back to MacPaint immediately, and then bring the image in from disk to work on it. The possibilities for using this are almost endless.

Contact: Koala Technologies, 800-562-2327. Shipping: End of Nov.

• **LOGO** We saw ExperTelligence's version that they are calling Exper-Logo. We are both going to buy it for our kids the day it hits the shelves. It is lightning fast, has Bunny Graphics (hey, *Turtle* Graphics would be too slow!), list processing and arrays.

Contact: ExperTelligence, 559 San Ysidro Rd. Santa Barbara CA 93108. 805-969-7874. Shipping: 1st of October

• **DESK ORGANIZER** Warner Software will be releasing a Macintosh version of their Desk Organizer program in December. Most desk organizer programs we have seen are trivial and lacking in real utility. This is the first one that seems to be really useful. They claim it will run concurrently with another program. That means you're supposed to be able to bring up the Desk Organizer while working in something like MacWrite.

It has a free-form filing system that works like a Rolodex system and includes filing, alphabetizing, indexing, cross-referencing, write notes, search notes, memos, a calculator with 'paper tape,' and time management calendar with appointments.

Contact: Warner Software, 666 Fifth Ave., New York NY 10103 614-221-4201

• **PLOTTER SOFTWARE** A British company has a program called MacPlot that is a plotter driver. It will take MacDraw, Microsoft Chart or MacProject drawings and print them on the following plotters: Apple, Calcomp 81, Graphtec MP 1000-01 and HP 7475. The cost of the software is $130. It will be available in the US when the company gets a distributor here.

They made a six-color sample for us while we were there, and it is *beautiful*! The output can be plotted right onto a transparency sheet.

Contact: Microspot, 9 High Street, Lenham Maidstone, Kent ME 17 2QD, England. Phone: (0622) 858753. Shipping: Now.

• **MACPUBLISHER** The manufacturers call this an 'article processor.' It allows you to lay out your files into a multi-column format with headlines handled as well. This program looks very promising for newsletters, brochures, flyers, etc. You play around with the layout on a 'minipage' which shows the entire page on a portion of the screen, allowing you to see exactly how it will turn out in final form. It's $100.

The only worry we have now is that this might be more vaporware. Charlie ordered it over a month ago and at the time this was written we still had not received it.

Contact: Boston Software Publishers, 19 Ledge Hill Road, Boston MA 02132. 617-327-5775. Shipping: Supposedly right now.

• **MUSIC** Hayden Software was showing their Music Works program. What a beauty. Place musical notes on a staff and it will play your song. If you are a novice composer and try to put a half note in where there are already three quarter notes, it automatically places two quarter notes and the tie between them on the sheet. You can print the score and save it to disk. There's much more to this. Any musician must go see it as soon as possible. At $79 it will sell a ton of copies.

The only disappointing thing about it is that there is no provision for taking the song and using it in a program in Basic or MacPascal. It should be available very soon, so just check with your local store.

• **LEARN TO TYPE** There will more than likely be several typing tutor programs available in the future. It looks like Forethought has one of the first. It's called Typing Intrigue. Besides having the kind of startup tutorials you'd expect, it has a little game that involves speed skills and then it has a major mystery game that you work at. The better your typing skills become, the more clues you get. The game looks

rather sophisticated and probably is not suited for children under 10.

They said that the program was for ages 12 on up. A bright 10-year-old could probably handle it. It can track the progress of 6 people. It keeps track of overall speed, which keys are often missed, and which keys were slow ones. Overall it looks good. We're definitely going to give it a try with our kids.

Contact: Forethought, 1973 Landings Dr., Mountain View CA 94043. 800-622-9273. Shipping: End of November

• **ASSEMBLER** The Assembler/Debugger from Apple will finally be released at the end of November (what is it about the end of November, anyway?). It's very sophisticated, takes advantage of all the Macintosh features (in the actual development system) and one of the debuggers is a state of the art system that is super. The only catch is, this particular debugger requires *two* Macs, wired together via serial ports.

• **PORTABLE CASE** If you have to fly a lot with your Mac, this is worth looking at. The MacColby is a strong case that the Mac is built into. You don't place your Mac into it, the insides of the Mac are taken out of its current case and put into theirs. It ends up looking like most portable computers do these days. It can handle two drives too. The conversion costs $699. A new 128K Mac already in it goes for $2699.

It ends up weighing 26 lbs. and has dimensions of 8.5" by 16.5" by 17.5", so it shouldn't be a problem getting it under an airline seat. It looked very rugged. The Colby people have a lot of experience making cases like this. They've been doing IBM PC versions for a long time.

Contact: Colby Computer, 849 Independence Ave., Mountain View CA 94043. 415-968-1410. Shipping: Supposedly now.

• **PNEU-MOUSE** Last, and definitely least, is the Pneu-Mouse. It's a small circular platform that the mouse rests in. The platform floats on a cushion of air, just high enough to take away a lot of the friction, but not so much that the ball of the mouse is disengaged. A small air hose attaches to the platform to bring in the air. You put down a plate of glass on which this works. Air hockey for your mouse!

The mouse slips along like a dream on this cushion of air. One purpose for this is to make it easier to do small precise movements. Also, this will eliminate that most dreaded of medical ailments, ***MOUSEWRIST!*** Yes folks, heaven forbid that you get MOUSEWRIST from all that tensing up while doing precision MacPaint moves.

When Alain Rossman from the Macintosh Development Team was shown this device, he very astutely asked, 'How do you pick it up and move it over so that you can operate in a small area?' You can't. You have to be able to operate on that full size pane of glass. It is priced at $75, but the flyer did not say whether this included something to supply the air. We think that it does, some kind of foot pump device, but we're not sure.

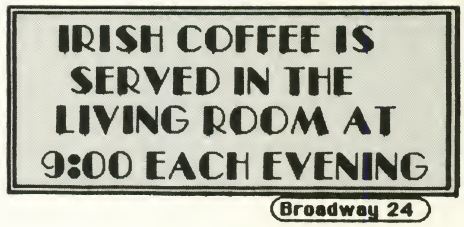
Contact: Pneu-Mouse Corporation, P.O. Box 125, Boulder CO 80306 303-449-5525. Shipping: Supposedly now.

Charlie Jackson is Chairman and Sandy Erickson the Treasurer of the San Diego Macintosh Users Group.



A Bargain in New Fonts

Since one of the lures in purchasing a Mac was the chance to use a variety of fonts, the arrival of a new disk chock full of interesting alternatives to Venice and Athens is good news. Even better is the fact that they are available from the N.Y. MacUser's groups for only $8.00. Since the disk itself is worth about



five, the price of the fonts works out to about thirty cents apiece. The catch, of course, is that you have to be a member of the New York MacUser's group to purchase the disks. Once a member, however, you wil have access to their other interesting disks, also for a mere eight dollars.

Credit for these lovely additions goes to Peter Schug for Chancery and Unical. Alex Benenson for the enlargements of the London font as well as the Ultra font and Tombstone.
James Doherty for Memphis.
Anil Bajaj for Broadway.

Additional fonts on the disk include a Cyrillic and German alphabet, a surrealistic font, Chicago by night (an inverted version of Chicago), and several fonts developed by students at Drexel. A math-Greek font including most of the symbols needed for equations, and a tiny font (listed as 9 points) is actually only five points high.

To join the New York MacUser's Group and order fonts, write to:

New York MacUser's Group
P.O. Box 6686 Yorkville Station
New York, N.Y. 10128
To request the fonts, ask for disk #5.



A SERIOUS PRIMER ON FRIVOLOUS FONTS

The fonts offered here are meant to answer the question, "Are they tax deductible?"

After all, interesting businesses do have needs for interesting fonts. For those Puritans among us who dare not play with MacPaint, here are a few ideas for making money.

Neale McGoldrick

continued on page 60

DEVELOPER PROFILE

By Bob Jacob

CHIPWITS... WHAT IS IT AND WHY ALL THE EXCITEMENT?

A ChipWit is an incredibly endearing little robot that is programmed by a user and then sent off to forage and fight in any one of eight adventures all of which have totally separate goals.

Programming is accomplished in The Workshop via a new visual programming language called IBOL (Icon Based Operating Language). Integrated circuit chips are 'burned' containing IBOL Operators and Arguments. These instructions are then executed in a sequence determined by their relative positions and interconnections. Program control is passed from one chip to another through Input ports and Output wires.

After exiting the Workshop your skill as a programmer will be severely tested in all eight adventures. The ChipWit had better replenish his energy by consuming pie and coffee. Have you warned him about the dangerous Electro-Crabs and Bouncers? Has he been programmed to avoid running into walls? If a Chip Wit is damaged it's your fault not his.

If you'd like a little 'hands on' experience you can even create an entirely keyboard driven ChipWit. Should debugging prove necessary there's an option for doing so step by step, at a snail's pace or as speedy as a hummingbird.

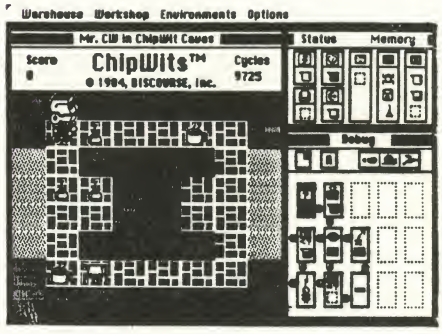


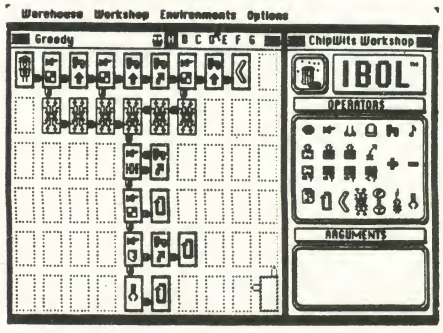
The adventures vary dramatically in appearance and content. Therefore, different ChipWits will have to be created for each adventure. You may store numerous robots to disk and assign each of them a name. High scores for each adventure are saved and statistics are kept on all ChipWits.

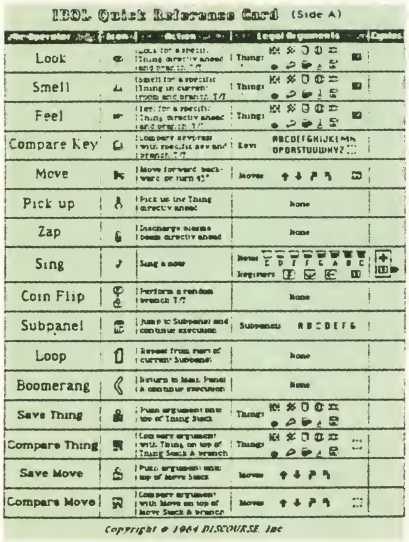
ChipWits is the first commerically released 'edutainment' product designed specifically for the Macintosh. Mike and Doug have made maximum use of the Mac's outstanding graphics and sound in a package that succeeds as both an introduction to programming logic and as entertainment. Finally, Mac owners can own a program that reminds them why they bought this special computer in the first place.

Macintoch version requires either a 128K or 512K Mac or a Lisa running under MacWorks. Price: $49.95

See your local dealer or contact: Brainworks, Inc. 24009 Ventura Boulevard, Suite 150, Calabasas CA 91302, (818) 884-6911.






IDOL Quick Reference Card (Side A)

Operator	Icon	Action	Legal Arguments	Cycles
Look		Look for a specific Thing directly ahead and branch T/F	Things	
Smell		Smell for a specific Thing in current square and branch T/F	Things	
Feel		Feel for a specific Thing directly ahead and branch T/F	Things	
Compare Key		Compare any key with specific key and branch T/F	Keys	A B C D E F G H I J K L M N O P Q R S T U U D H Y Z
Move		Move forward, backward, or turn 45°	Moves	
Pick up		Pick up the Thing directly ahead	None	
Zap		Discharge beams beam directly ahead	None	
Sing		Sing a note	None Registers	1 2 3 4 5 6 7 8 9 10 11 12 T F C A B C
Coin Flip		Perform a random branch T/F	None	
Subpanel		Jump to Subpanel and continue execution	Subpanels	A B C D E F G
Loop		Restart from start of current Subpanel	None	
Boomerang		Return to Main Panel & continue execution	None	
Save Thing		Push argument onto top of Thing Stack	Things	
Compare Thing		Compare argument with Thing on top of Thing Stack & branch	Things	
Save Move		Push argument onto top of Move Stack	Moves	
Compare Move		Compare argument with Move on top of Move Stack & branch	Moves	

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Mike Johnston's personal historical ramblings . . .

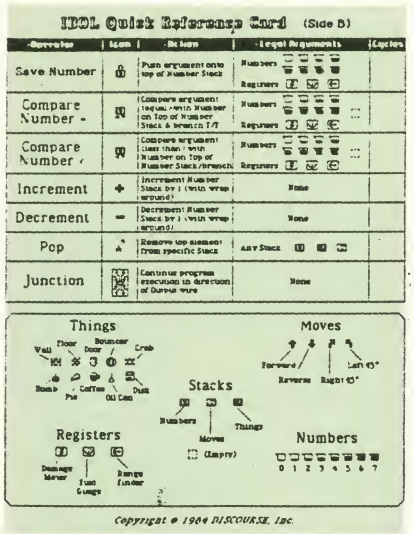
In 1969, I was still in high school. I vividly remember my older brother returning from a summer computer seminar and proudly displaying reams of printouts with Fibonoci sequences and very large prime numbers. But it was the Snoopy pictures that were so fascinating. I guess that's what sparked my passion for graphics.

It wasn't until I was an undergrad at the University of Texas that I finally had access to a machine. Well, sort of. As a French major, my only computer use was by way of ID numbers and passwords carelessly left in trash cans. So I learned BASIC by copying hundreds of lines of code from library books in the quiet, isolated evenings of a Chemistry CAI lab—knowing full-well that when I logged off, it would all be gone. But somehow it seemed worth it.

In 1973, I eventually found a job combining both my enthusiasm for foreign languages and computer programming: borrowing time on intelligent graphic terminals from the Engineering Department, I was to create legible Arabic script for a series of CAI lessons. There were a lot of sleepless nights worrying about nothing but lines and dots. I got $100 for the semester.

At that time, most micros were just wires and breadboards in folks' garages, and some were being introduced as kits. I had secret dreams of standing over a completed Altair or IMSAI with a hot soldering iron in my hand. But I saved every penny I could and finally, in 1977, bought an Exidy Sorcerer. Wow! It had a Z-80, incredible resolution, user definable character sets, BASIC in ROM, built-in serial and parallel ports, and state of the art plug-in "ROM-PAKS" (probably the original expansion slot). I just knew it would establish a standard for all micros to follow. I was wrong.

Until 1979, I continued developing instructional programs, driving a bus part-time, and dabbling on that Exidy in spare moments. Then, in the pursuit of academic satisfaction, I relocated to Minneapolis to finish my doctorate at the University of Minnesota.


IDOL Quick Reference Card (Side B)

Operator	Icon	Action	Legal Arguments	Cycles
Save Number		Push argument onto top of Number Stack	Numbers Registers	
Compare Number =		Compare argument (equal) with Number on Top of Number Stack & branch T/F	Numbers Registers	
Compare Number <		Compare argument (less than) with Number on Top of Number Stack & branch T/F	Numbers Registers	
Increment		Increment Number Stack by 1 (with wrap around)	None	
Decrement		Decrement Number Stack by 1 (with wrap around)	None	
Pop		Remove top element from specific Stack	Any Stack	
Junction		Continue program execution in direction of Curious Yuro	None	

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Birth of a Sweatshop

That's where I met Doug. He had registered for one of several courses I was teaching on designing and programming instructional software. We admitted to very similar interest and desires, and decided to collaborate on a small project: publishing a magazine. It was to be called DISCOURSE—a monthly journal brimming with application programs, technical tips and tricks for teachers using micros.

Two subsequent events then redirected our efforts. First we discovered we had neither the resources nor experience to enter the publishing business. Second, we had been made a lucrative offer to convert an existing Apple program to a Radio Shack machine for what we thought was big bucks. And so in 1981, DISCOURSE became a corporation instead of a magazine.

Intrigued with the exploding educational software marketplace, we decided to land a few additional contracts doing conversion work and buy time to develop some of our own ideas into saleable shape. As it turned out, we were never able to afford a continuous block of time. There were always bills and expenses, and occasionally the need to eat, so the end of one conversion project usually overlapped the start of the next. But in the spare moments left over, we managed to finish a series of simple learning games, and our search for a publisher began.

It proved to be a disaster. Control Data Corporation, the first publisher we contacted, purchased the rights to two of our packages. They offered both marketing strength and a reasonable royalty rate, and paid a nice advance. Eleven months later, our programs had still not gone to press. When we signed on the line, we never anticipated the internal struggles and reorganizations within Control Data that would delay publication by almost a year. In fact, the programs were never published, the rights were eventually returned to us, and we were allowed to keep the advance as partial compensation.

During this fiasco, ChipWits was taking shape on the drawing board. It would easily be the biggest task we had ever undertaken. So with one bad publishing experience already, and development time still an expensive commodity, we elected to contact a software agent for help, and eventually settled on Bob Jacob.

Evolution of a Bestseller

ChipWits began as an idea during the summer of 1983. Under a working title of *That Robot Thing*, we began to collect ideas and design graphics in spare time brainstorming sessions. At that time, we were still heavily committed to con-



Mike and Doug urge the Chipwit to go after the pie.

version work, and any original stuff had to take a back seat. But the program began to take shape—first in colorful scribbles on an eight foot white board in our office. Originally, we envisioned the program as more of a content based adventure: one in which a robot-like character, under player control, would travel around retrieving pieces of information to solve a puzzle.

Looking back now, there were several programs on the market then that, I think, really influenced the way ChipWits evolved from that point. Doug and I had spent a lot of "research" time with Robot War, Castle Wolfenstein, and kicking colored squares with Rocky's boot. We would eventually blend the successful elements of these into our design. But with the introduction of Mr. Budge's Pinball Set, and a noticeable trend toward icons for this and that, the basic format for ChipWits became clear: it would be a graphically oriented robot construction tool.

At first, we thought we would create more of a general purpose visual language than one finally developed. The prospect of creating separate and very different scenario disks was appealing: we thought that the same language enabling a robot to play football on one disk could be used for a robot to fight dragons on another. But the number of icons that would be required and the potential for programming errors soon forced us to limit both the size of the instruction set and the scope of the environments in which a robot would function.

About that time, the Macintosh was introduced. We were invited to the unveiling at our local computer retailer. It seems rather absurd now, but I remember the two of us sitting, mouths gaping, and marvelling at graphics of the underside of a tennis shoe. Well, our priorities shifted practically overnight. We immediately recognized the potential of this machine. Clearly it was designed specifically for ChipWits.

So the rush was on. We ordered one on the spot, and waited. Rumors were flying that no serious development was possible without sister LISA. So we began scrounging for technical info and shopping for any kind of development tools available. As it turned out, Doug's previous excursion into FORTH would give us the edge we needed. We ordered a version of MACFORTH and coding began.

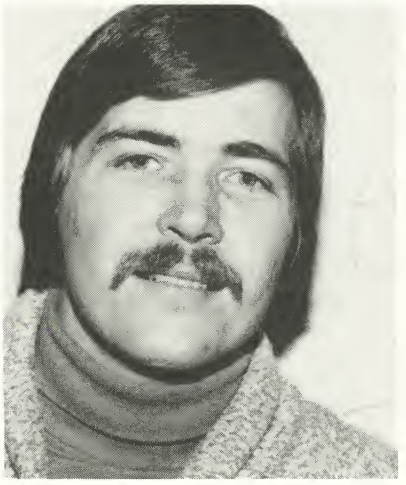
In fact, coding began too soon. There were still design issues that had not been decided which resulted in little side trips along the way. We were convinced that a real 3-D robot's eye view of its environment would be best. We thought peace loving (non-zapping) robots would be more appealing. And at one point, the robot even became a kind of benevolent dumpster, searching its environments for empty cans, bottles, and banana peels for energy. But eventually, these issues resolved themselves. Time constraints helped considerably. And for one thing, we knew the only true sources of energy were pie and coffee.

In the weeks that followed, the robot evolved from a simple directional arrow into its present Neanderthal Tin Man character. We refined the other graphics, laid out several environments by hand, and finally, in September, had a fairly clean operational version to show. We put screen prints into the hands of our agent, Bob Jacob, and waited.

Mike Johnston



Mike Johnston



Doug Sharp

Doug Sharp—My Life and Parts

Florida, 1952. An Air Force brat. I was in Alaska when it became a state, then all over the U.S. from Sacramento to Washington, D.C. and Midwest City, OK. My father, Jack Sharp, was a programmer-meterologist. He showed me how to write a bubble-up sort in assembler when he was first learning to program in the early sixties.

My dream job when growing up was to be a writer. A writer with a blank page seemed like the ideal freedom. Funny, a blank screen never occurred to me. I went to high school in England at a military dependent's school housed in a WWII army barracks. I started writing poetry there. I sent some to a small poetry review and got a letter back saying the editor had died. I always picture him reading my verses and clutching his chest and slumping over. That hasn't happened with any programs I've written.

Freshmen year I went to Stanford and majored in astronautical engineering. I had a fun year, got involved in the anti-war effort, marched, occupied various buildings and took one computer class in Algol IV. It did not tingle my circuits. I decided I didn't like to take classes and that I was more interested in teaching and lit than science.

I spun my wheels for a while then went to St. Olaf College and later to Oxford University, studying James Joyce and Samuel Beckett, the high point of my academic career. After graduation I worked as a teacher's aide for a couple of years.

I returned to school, eventually, to get my elementary certification. After graduation I taught 5th grade for two years and my second year was so good that I thought I'd better get out of teaching while I has ahead. Meanwhile, the first Apples had shown up at our school and I had taken one home on weekends and taught myself to program.

I taught kids programming in summer school which was a fairly new idea in 1980. That was the most fun I had with kids and computers, teaching them to treat the computer as a tool to create with.

I decided to go for my masters at the University of Minnesota's Instructional Systems program. My best classes were taught by Mike. We hit it off, being similarly cynical about the instant-expert approach that passes for instructional design in so many places.

One connection.

SOFTWARE

ATI
MacCoach Training *(Interactive teaching program for using the Mac. Two disks/handbook.)* . . . $49.
Ann Arbor Softworks
Animation Toolkit 1 *(Create, edit, and animate pictures right on your Mac.)* . . . . . 39.
Animation Toolkit 1 advanced version *(All the features above plus sound.)* . . . . . 54.
Apropos
You must have Multiplan to use.
Financial Planning *(Home budget, tax, auto, life insurance and college planner.)* . . . . . 65.
Investment Planning *(Stocks, real estate, loans, IRA vs. CD's.)* . . . . . 65.
Axlon
Art Portfolio *(120 drawings await your creative desires.)* . . . . . 44.
Card Shoppe *(Make professional quality greeting cards.)* . . . . . 44.
Creative Solutions
MacForth - Level I *(Learn to program your Mac in "Forth". Define your own menus & windows.)* 99.
MacForth - Level 2 *(Now you can get serious. Level 2 includes an assembler, floating point, and advanced graphics.)* . . . . . 139.
Desktop Software
1st Base *(File management and report writing program for use with MacWrite & MacPaint.)* . . . 109.
Dow Jones
Straight Talk *(Communications package for accessing on-line databases and other Macs and micros.)* . . . . . 54.
1st Byte
Smooth Talker *(Voice synthesis software for the Mac.)* . . . . . 119.
Haba Systems
Habadex *(Desktop management with address phone directory, appointments, travel expenses, phone dialer, database management, and mail-merge capabilities.)* . . . . . 78.
Harvard Associates
MacManager *(Improve your strategic business skills with this simulation.)* . . . . . 35.
Hayden Software
Hundreds of design images that can be put into Mac's scrapbook, adjusted with MacPaint, and used in your own drawings. For professionals and amateurs.
DaVinci Buildings . . . . . 34.
DaVinci Interiors . . . . . 34.
DaVinci Landscapes . . . . . 34.
Hippopotamus Software
Hippo-C - Level I *(Edit, compile, link, and execute C programs on a 128k Mac.)* . . . . . 117.
Human Edge Software
The Sales Edge *(Helps prepare strategies for all aspects of sales negotiations.)* . . . . . 169.
The Communications Edge *(Identifies communications strengths and weaknesses.)* . . . . . 113.
The Management Edge *(Identify and evaluate management skills and discover methods for improvement.)* . . . . . 129.
The Negotiation Edge *(Develop "How To" plan by analyzing critical factors.)* . . . . . 179.
Mind Prober *(Software that reveals people's hidden thoughts.)* . . . . . 31.
Living Videotext
ThinkTank 128 *(Put your ideas into ThinkTank and let your thoughts flow. The perfect idea organizer.)* . . . . . $85.
Magnum
McPic - Volume I *(Create fancy memos, maps, logos, etc. with this collection of MacPainted drawings.)* . . . . . 35.
McPic - Volume II *(150 new pictures.)* . . . . 35.
The Slide Show Magician *(For presentations, teaching or just plain fun.)* . . . . . 38.
Matrix Advocates
Images *(Ready to use graphics and pictures.)* 28.
Megahaus
Megafiler *(Instant access to all your data. Print reports in a variety of formats.)* . . . . . 139.
Megamerge *(A mailmerge for Macwrite — generates form letters and mailing labels.)* . . . . . 86.
Microsoft
Basic *(The standard micro language — now available for the Mac.)* . . . . . 99.
Chart *(Business graphics program transforms numerical data into over 40 different graph styles.)* 89.
Multiplan *(One of the most tried, proven, and popular electronic spreadsheets.)* . . . . . 125.
Miles Computing
Mac the Knife - Volume I *(Nearly 500 illustrations — borders, icons, maps, etc. Use with MacPaint.)* 27.
Mac the Knife - Volume 2 *(Over two dozen new fonts for your Mac.)* . . . . . 29.
Monogram
Dollars & Sense *(Personal financial management program for your Mac.)* . . . . . 84.
Organization Software
Omnis 2 *(Information management system with global update/delete, user-defined records, mail merge, etc.)* . . . . . 145.
Omnis 3 *(Database management compatible with Omnis 2. Supports up to 12 open files.)* . . . . 219.
Palantir
Mactype *(Typing instruction, supports both Qwerty and Dvorak keyboards.)* . . . . . 31.
ProVUE Development
OverVUE *(Database program with powerful math capabilities. Can sort 1000 records in 2 seconds.)* . . . . . 185.
RealData, Inc.
Real estate and financial analysis templates. You must have Multiplan to use.
#1 Income producing real estate . . . . . 75.
#2 General financial analysis. . . . . 75.
#3 Commercial real estate development 75.
#4 Residential real estate. . . . . 75.
Software Arts
TK!Solver *(An equation processing program to help you solve your most difficult problems.)* . . . . 149.
Software Publishing
PFS:File *(Powerful system for updating, recording, retrieving, and printing data.)* . . . . . 79.
PFS:Report *(Transfers PFS:File data into reports, according to your specifications.)* . . . . . 79.
PFS:File & Report *(Buy both and save.)* . . 125.
Stoneware
DB Master *(Complete database management featuring on-screen prompts, browse capability, built-in report generator and more.)* . . . . . 129.
T/Maker
Click Art Personal Graphics *(100+ drawings; cartoons, symbols, borders, famous people.)* . 35.
Click Art Publications *(Graphics for newsletters, reports, invitations and more.)* . . . . . $35.
Telos Software
Filevision *(Store visual data along with relevant numbers and text. This unique graphic filing program lets you create a database out of whatever your mind can envision.)* . . . . . 109.
Think Educational
Mind Over Mac *(Five challenging games to develop mathematical & memory skills.)* . . . . . 36.
Mac Edge *(Learning programs in math and reading using graphics and games.)* . . . . . 36.
Videx
MacCalendar *(Includes a reminder system to alert you of important messages or notes.)* . . . . . 53.

GAMES

Axlon
MacMatch *(Match the squares and solve the hidden puzzles underneath.)* . . . . . 34.
Blue Chip
Millionaire *(Realistic stock market play. Start investing with $10,000. Difficulty increases with success.)* . . . . . 37.
Tycoon *(Learn to invest in agricultural commodities, precious metals, and foreign currency.)* . . . . . 37.
Baron *(Learn the ins and outs of investing in commercial, residential, and undeveloped property.)* 37.
Broderbund Software
Lode Runner *(Arcade style. Attempt to recover stolen gold.)* . . . . . 27.
CBS
Murder by the Dozen. *(12 intricate mysteries. Work alone or in teams against rival detectives or the relentless clock.)* . . . . . 29.
Datapak Software
Turn your Mac into a casino!
Mac-Jack *(Electronic black jack.)* . . . . . 27.
Mac-Poker *(Electronic poker. Habit-forming when the chips are down.)* . . . . . 27.
Hayden
Sargon III *(The ultimate in computer chess. 9 levels of play.)* . . . . . 35.
Industrial Components
Mac Puzzle *(Create your own jigsaw puzzles out of MacPaint drawings.)* . . . . . 27.
Infocom
You're a magician challenging the dungeon master, a detective solving a murder mystery, a scientist deciphering hieroglyphics, or just an ordinary mortal meeting the Wizard of Frobozz. (Difficulty levels shown in italics.)
Seastalker *(junior)* . . . . . 27.
Enchanter *(standard)* . . . . . 27.
the Witness *(standard)* . . . . . 27.
Planetfall *(standard)* . . . . . 27.
Cutthroats *(standard)* . . . . . 27.
Hitchhiker's Guide *(standard)* . . . . . 27.
Zork I *(standard)* . . . . . 27.
Zork II *(advanced)* . . . . . 35.
Zork III *(advanced)* . . . . . 35.
Infidel *(advanced)* . . . . . 35.
Sorcerer *(advanced)* . . . . . 35.
Deadline *(expert)* . . . . . 39.
Starcross *(expert)* . . . . . 39.
Suspended *(expert)* . . . . . 39.
Invisiclues (hint booklets) are available for all Infocom games. Specify game . . . . . 7.

No hassle.

Mark of the Unicorn
Mouse Stampede *(Blow up the mice and watch them turn into cheese. Addictive.)* ..... $23.
Miles Computing
MacAttack *(Arcade quality tank simulation, 3-dimensional animation with sound.)* ..... 29.
Mirage
Trivia *(Over 5000 questions, 5 catagories, 3 difficulty levels. Find out what you know, thought you knew or never knew you didn't know. You know?)* .... 29.
Penguin
Pensate *(You can control the obstacles, but can you make it to the top of the grid?)* ..... 24.
Transylvania *(Rescue Princess Sabrina in a desperate race against time, and beware of the creatures of the night.)* ..... 24.
The Quest *(Rid the kingdom of a vengeful dragon. Great graphics.)* ..... 24.
Pryority Software
Forbidden Quest *(A truly challenging sci-fi adventure. Vivid graphic art prints.)* ..... 27.
Scarborough Systems
Run for the Money *(Learn business skills to escape from a strange planet. Best with 2 players.)* .. 32.
Make Millions *(Enter the world of high finance and make your fortune.)* ..... 32.
Sierra On-Line
Frogger *(One of the classic arcade-type micro games. For 1 or 2 players.)* ..... 27.
Soft-Life Corp.
Mac-Slots *(An electronic slot machine. Includes Keno.)* ..... 49.
Videx
Collection of familiar, entertaining, and challenging games
Funpak ..... 23.
MacCheckers/Reversi ..... 29.
MacVegas ..... 35.
MacGammon/Cribbage ..... 29.

HARDWARE

Assimilation Process
Mac Daisywheel Connection *(Two disks, cable and set up guide for connecting Mac to a daisywheel printer.)* ..... 75.
Compucable
Mac to Hayes Smartmodem Cable *(9 ft. length.)* ..... 19.
Mac to Epson FX/RX printer cable ..... 19.
Creighton Development
ProPrint *(Software for connecting Mac to daisy wheel printer.)* ..... 49.
ProPrint w/8 ft serial cable ..... 74.
ProPrint w/2 8 ft serial cables & A-B switch 149.
Curtis Manufacturing
Diamond *(Switched 6 outlets)* ..... $39.
Emerald *(Switched 6 outlets;6 ft cord)* ..... 49.
Sapphire *(Switched 3 outlets;EMI/RFI filtered)* 59.
Ruby *(Switched 6 outlets;EMI/RFI filtered;6 ft cord)* ..... 69.
Elephant
Imagewriter Ribbons. *(For superior Imagewriter printing.)* ..... 5.
Epson
RX-80 with GRAFTRAX-Plus ..... call
RX-80 F/T with GRAFTRAX-Plus ..... call
FX-80 with GRAFTRAX-Plus ..... call
RX-100 with GRAFTRAX-Plus ..... call
FX-100 with GRAFTRAX-Plus ..... call
Hayes Microcomputing
Smartmodem 300 *(Works with Macterminal)* 197.
Smartmodem 1200 *(Works with Macterminal)* ..... 489.
Compucable's Mac to Smartmodem cable 19.
Hanzon
Universal Card *(Serial interface board that gives your Epson FX or RX series printer Mac compatibility.)* ..... 116.
I/O Design
Padded Imagewriter Carrying Case *with shoulder strap. Navy blue.* ..... 49.
Kensington
Dust Cover *(Covers both Mac and keyboard.)* 10.
Imagewriter Cover *(Protection for your printer.)* 10.
Universal Printer Stand *(The perfect companion for your printer.)* ..... 19.
Swivel *(Lazy Susan style base for your Mac.)* 23.
Disk Case *(Holds 36 Mac disks.)* ..... 23.
Surge Suppressor *(Replaces Mac's power cord and protects from surges and line noise.)* ... 39.
Starter Pack *(Swivel, surge suppressor & dust cover in one package. Best buy.)* ..... 54.
Modem *(A 300 baud portable modem. Complete with case and cables. 5 year warranty.)* ..... 99.
Innovative
Flip & File *(Holds 40 Mac disks.)* ..... 23.
Microcom
MacModem *(Including software, upgradeable to 2400 baud.)* ..... 419.
Micron Technology
MicronEye *(Image sensor translates anything it sees into MacPaint for enhancement, printing, or storage. Let your Mac see what's going on.)* ... 329.
Pacific Wave
Flip Sort Micro *(Holds 40 Mac disks)* ..... 17.
BASF
Disks 3½" Micro Floppy *(Box of 5)* ..... 19.
MAXELL
Disks 3½" Micro Floppy *(Box of 10)* ..... $35.
Fuji
Disks 3½" Micro Floppy *(Box of 10)* ..... 37.
Memorex
Disks 3½" Micro Floppy *(Box of 10)* ..... 39.
3M
Disks 3½" Micro Floppy *(Box of 10)* ..... 39.
Verbatim
Disks 3½" Micro Floppy *(Box of 10)* .... 39.
Intermatrix
Macphone *(The complete computer phone, with clock calendar, memo pad and auto dial. Keeps detailed log of the length of all calls.)* ..... 169.
Microsoft
Apple-Mac Book *(The much-acclaimed Mac reference book. An instant classic.)* ..... 14.
Presentation Graphics Book *(For getting the most out of Microsoft Chart.)* ..... 14.
MacWork/MacPlay *(Twenty original ideas for home and business. See what's really possible between you and your Mac with MacWrite, MacPaint, and Multiplan.)* ..... 14.

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DISCOURSE is 2.5 years old and this time has been the most stimulating experience of my life. I thrive on the high rate of learning you need to maintain to make it in this field. I can't wait to get started on my next Mac program.

By Doug Sharp

ChipWits on the Mac

The first time I saw the Macintosh I fell for it. I felt high on the possibilities it opened up for me as a software creator. I shouldn't have driven a car for the rest of the day.

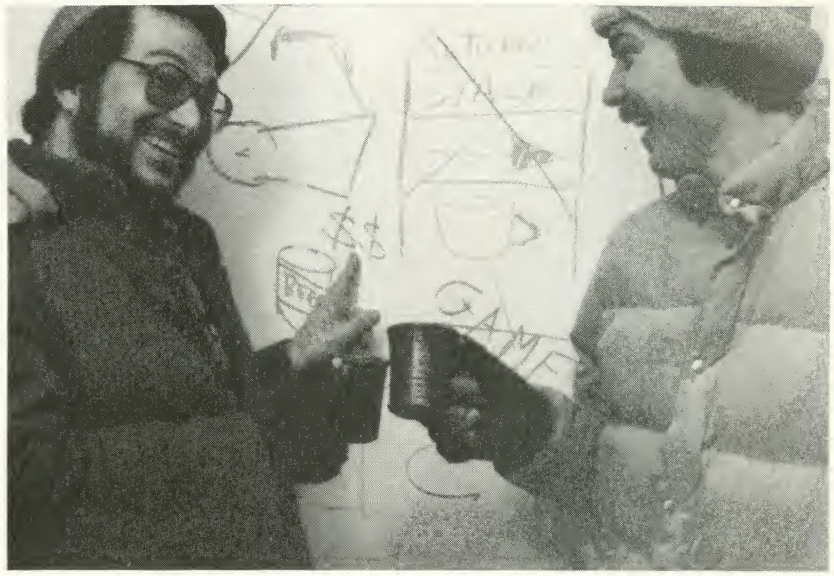
MacPaint was tremendously inspiring. It meshed tightly with the Mac and so many things were done right. It's fun, intuitively easy to use, and sets a standard for all the software to follow. Bill Atkinson should get a Nobel prize in cybernetics. That's the game Mike and I want to play — testing ourselves against the best software on the cutting edge machine. I went from being an 8-bit burnout to a starry-eyed enthusiast again.

The MacIntosh was obviously the vehicle for ChipWits. It's fine graphics and icon orientation made it a natural vehicle for IBOL, ChipWits' graphic programming language. We had no doubt that Apple was going to sell a ton of Macs, not only because of the machine itself, but because Apple was putting a lot of maketing oomph behind it right from day one. We knew ChipWits was a strong concept and figured that the best way to get a publisher's attention was to do a dynamite version on the Mac while there was a software shortage.

Mike and I sprang for a Mac on the Apple credit plan. If we had't bought one I would have been very depressed, feeling that we were losing ground in this fast-moving field.

A few things clicked for us right from the start in our timing. When we got our Mac we naturally wondered how the heck we could program the beast, since Apple had thoughtfully forgotten to provide a real development system for us developers too poor to pop for Lisas. Microsoft BASIC? That would be like trying to play a pipe organ in a strait jacket.

Flashback—Fall '82 I was shopping for a new language. Doug, 'If I have to memorize one more line number I'll turn into a drooling idiot.' Mike,' No way I'll waste my life sitting through a compile every time I change a comma.' I couldn't stand BASIC any more and Mike didn't like Pascal.



Dressed for the cold Minnesota winters. our heroes point toward their goal.

I settled on FORTH because I liked its simplicity and it seemed to promise fast conversions from one micro to another. I learned it on the Apple using Mountain View Press FORTH and became an enthusiast. I won't bore anyone with all the reason I like FORTH because I realize that a lot of computerists view FORTH adherents as deluded, rabid cultists. I'll only mention that since I started programming in FORTH I no longer need to sleep, my car gets better gas mileage, and I have become popular with the really neat people you'd love to know.

When the Mac came out I was a certified (certifiable?) FORTH expert. I had written 80% of one program in FORTH for Control Data Publishing, a publisher that promptly sank and tried to drag D!SCOURSE, Inc. down with it. No hard feelings, eh, CDP? Glug, glug. That's one of the fun parts of being a software artist—you get to experience the rough and tumble of the current software market. When a publisher tumbles you can get roughed up. But that was in the bad old days before we had an agent.

Creative Solutions, Inc. was advertising their FORTH as a real development language. I knew they had been doing 68000 FORTH systems for a while since Denis Grundmann, a friend and fellow Mac-owner, had programmed a huge industrial crane with a CSI FORTH. We bought their Level I system and I got my first taste of programming the Mac.

We filled out the forms and must have answered some of the questions right because Apple anointed us as Certified Apple Developers. The fabled 800 page *Inside the MacIntosh* arrived soon after. I read it in one afternoon and understood every word. If you can't do the same you should't even consider trying to become a MacIntosh developer. Seriously, I was boggled the first time I skimmed through the two-volume tome. Resource manager? Controls? I thought I knew what a font was and windows were those rectangle things that popped up on the screen right? This doesn't look like 8-bit any more, Toto.

This was all strange, scary stuff to me, but DISCOURSE, Inc. had wisely assigned me to do ChipWits on the MacIntosh since I 'knew' FORTH and that seemed like the only route we could take. Mike was doing boring contract programming to pay the rent and working on the design of ChipWits so I pretended to him that I had it all under control and every now and than I would point out a paragraph in *Inside the Mac* that I thought I had figured out.

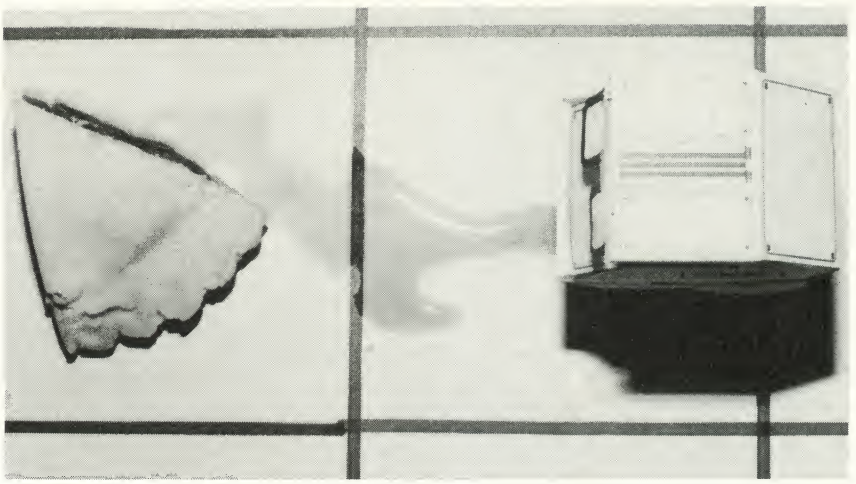
I also kept busy bringing up ChipWits on the Mac with CSI MacFORTH. I must praise CSI for the very fine job they did right from the beginning. MacFORTH was a real language and I could do real programming with it. Meanwhile the BASIC and Pascal bunch were left with toy languages or the need for a Lisa. As I learned how to control the Mac I felt lucky to be pulling away from the corwd of talented programmers who were itching to do great deeds on the Mac.

There were a number of levels of development going on at once, as is usual in this racket. First, Mike and I were nailing down the final design for ChipWits. This, of course, evolved as I found out some of the tricks I could and couldn't do on the Mac and as Mike and I had bright ideas. Second I was learning the Mac, first figuring out what I needed to know and than consulting *Inside the Mac* to see what I could learn 90% of what I wanted to know was in the section on QuickDraw, which luckily turned out to be one of the clearer and more up-to-date sections of the manual. Thirdly, I was learning FORTH, after all, this was going to be my first complete program in the language and I had to do a good enough job programming ChipWits so it would stay at the top of the charts until Mike and I could retire.

My happiest day of the development came when I 'discovered' how to use MacPaint to draw all my graphics. I was real proud of myself even though it was Apple who made it possible by standardizing graphics at a very handy level for a programmer. MacFORTH let me pick any routines I wanted from QuickDraw and define them into my system.

Soon after this I had ChipWits in a form viewable by publishers, fragile and weak, but pretty. Mike and I knew we had something hot and we figured time was crucial. We wanted to get a preview version out to publishers quickly so we would have a shot at the Christmas market and to get an advance on royalties so we could afford new mittens for the approaching Minnesota winter.

I suggested to Mike that we check out some software agents. We spoke with several and enentually decided to sign with The Robert Jacob agency. Then the project immediately shifted gears. Bob Jacob in his enthusiastic style presented the program to publishers all over California and I became a regular at Federal Express every night shipping the latest versiuons out to him. I worked like a



Chipwit laps up the coffee and goes after the pie, replacing lost energy.

fiend because I wanted the publishers to see the best possible version of the program. It still needed weeks of polishing to become a commercial program but Bob had a sense of urgency about getting it sold and on the market quickly. He used guilt, intimidation and every cheap motivational gimmick he could put over on me to keep me glued to my MacIntosh keyboard burning the night oil. Naturally, I came through like a champ; ask anyone who has seen ChipWits.

He put together a good-looking deal with Sherwin Steffin's new company Brainworks to publish the Macintosh and Apple II versions and with Apyx to publish the Commodore-64 version. He convinced us that Sherwin was a man of superior critical faculties because of his enthusiasm for ChipWits.

I put a few more features into the program and Mike and I flew out to California to meet our agent and publishers-to-be. Pretty exciting stuff for a couple of Minnesota software boys. We practiced nonchalantly dropping this line into conversation, 'We're flying out to LA on Monday to have lunch with our agent.

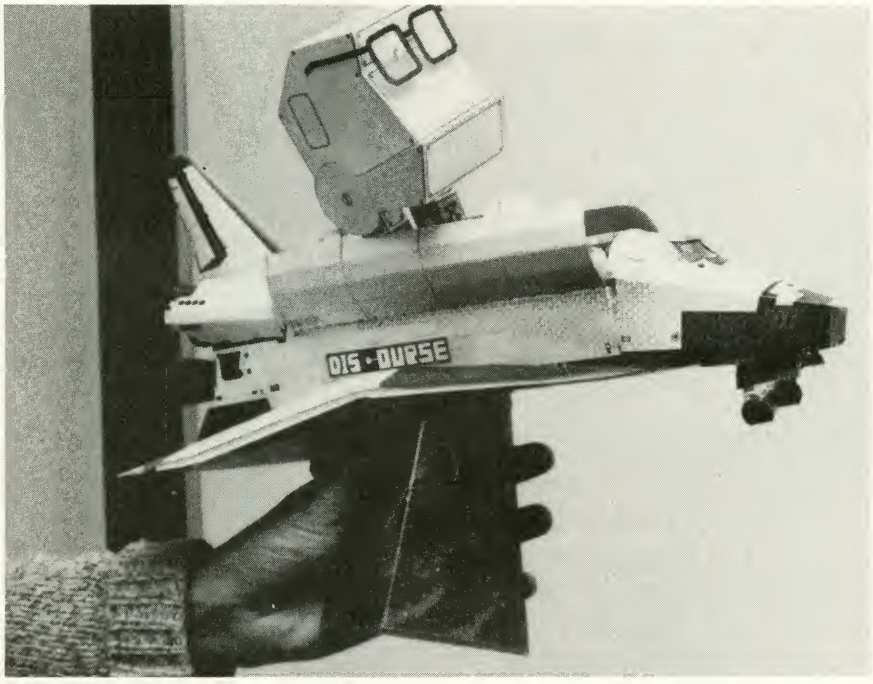
It was a pleasant surprise meeting Bob for the first time. So that other software artists he lures into his clutches don't get a similar jolt I'm giving a public warning: Don't expect to find him in a three piece suit. Jeans and sandals are more his style. Being casual myself, I appreciated that he was a regular guy.

I'll skip over the meeting and stimulating late-night negotiation session Bob conducted with Sherwin Steffin because Steffin is naturally shy and shuns publicity, as is well known. All top soon we were winging our way back to the frozen wasteland of the far north.

I had 4 weeks to wrap up ChipWits. I worked harder than at any time in my life. When I work on a program I often dream about ChipWits code. One morning I even woke up knowing how to solve a bug that had cropped up the night before. I often woke up feeling like I'd worked all night.

The folks at CSI, especially Don Colburn, were extremely helpful, always returning my calls and answering my technical questions promptly. The more I used MacFORTH the more I was impressed at how they had put the features of the Mac into the programmers hands. They aren't paying me to say this either, in fact we're paying them license fees to use MacFORTH for ChipWits. If they change their licensing policies I'd even like to use MacFORTH for writing my next Mac program.

I'll never forget my sense of relief when I sent the finished version to Sherwin Steffin for his quality control people to pound on. Then there was the satisfaction of hearing Sherwin's voice on the phone the next day as he warmly congratulated me for a job well done and expressed his confidence that we had a bestseller on our hands. This made all the hard nights, bloodshot eyes, and calloused typing fingers worthwile. I slept soundly that night.



Hoping that Chipwit sales go into orbit.

There were a few rough spots to polish up and a few last minute enhancements I duplicated, packaged, and put on the shelves in the first week of December.

Although Mike and I have over 20 disks out on the market done on contract, this is the first one that is our own creation and the first on on which we will earn royalties. Our royalty checks will show us just how good a job we've done in a very tangible way. We feel confident—compare any other simulation that's appeared on the Mac to ChipWits for depth, graphics, and use of the Mac's interface. Lots of packages have been converted to the Mac from 8-bit machines but ChipWits was designed for the Macintosh, and all conversions will be in the other direction.

Discourse, Inc.

Bob Jacob, who has signed to do our monthly developer profile column, is a 1971 graduate of the University of Missouri School of Journalism and founder of the Robert Jacob Agency. We met Bob at the COMDEX show in Las Vegas and learned that: (a) he was also interested in writing, and (b) that he had recently represented Doug Sharp and Mike Johnston of Discourse, Inc. in their search for a publisher of their ChipWits game package. We were so excited by Bob's description of ChipWits that we asked him to put together a profile of the developers and an introductory item on ChipWits.

After seeing the game in a pre-release version, we decided that the product is so revolutionary that this issue's Developer Profile should be expanded to a major feature incorporating most of what we know about the game and its developers.

We described ChipWits as a 'revolutionary' game package, and we think that when you see it you will agree. However, it's much more than just a game, it's 'edu-tainment' at its best. In our opinion, the program is so innovative that it over leaps other educational and game packages in the same manner in which Filevision brought new concepts to the 'data base jungle'. We predict without hesitation that ChipWits will become a cult favorite among Macintosh users and their children of whatever age. Ed.)



Jennifer Bartel, The Home Accountant



Rob Campbell, Fact Finder Data Base



Charles Colby, Pres. Colby Computer



Charlene, Filevision



Greg Munser, Seth Lipkin, Hyperdrive



ICON Concepts, MACazine

MACintosh Takes Comdex

Actually, the COMDEX Fall show, held in Las Vegas November 14-18, is just too BIG to be "taken" by any one product or group of products. Show-wide, COMDEX is probably without individual stars, but Apple Computer, Inc., the Macintosh and the incredible array of new Macintosh software probably came as close to "star quality" as anything at the show. Did we say probably . . . "certainly" is a better choice of words.

We had the pleasure of being at COMDEX-Fall for the entire show, and then some, and were constantly amazed at the response of both exhibitors and attendees to the Macintosh . . . without question Apple and the Macintosh developers exhibiting at the show were the most excited and overworked collection of folk at the entire show, conditions directly attributable to the unabashed enthusiasm of visitors and attendees making the rounds of the exhibits, booths, demonstrations and parties. The enthusiasm and excitement was infectious . . . if we weren't "gee-whiz" over the Macintosh before, and we were, we're certainly pumped up now. And we think that you will be as well!!

Although it's probably not usual for a "consumer" publication to provide major coverage of a show or exhibition as dealer/trade oriented as COMDEX, we have always been committed to providing our readership with the latest in Macintosh product "intelligence" and believe that COMDEX provided a bonanza of such information. It "seems like only yesterday" that the Macintosh was sniffed at by the "PC elite" as the toy for which no software was available. It wasn't "yesterday", it still goes on today! The Macintosh never was a "toy" (an epithet probably applied by some corporate "dirty tricks" department), and although there has existed a sometime paucity of software for the machine, the deluge has arrived...now. Our intent is to attempt to provide our readers who were unable to attend the COMDEX show with some new perspective on "the tip of the iceberg" which was apparent in Las Vegas...tip of the iceberg because however impressive the current offerings of Apple and third-party developers, it truly is only a glimpse of that which lies beneath the surface and which is yet to come!!!

Elsewhere in this issue (M.U.G. Shots) our new user group editor, Charles Jackson, has shared his perspective of COMDEX and some of the products introduced or exhibited which caught his eye; while there is some overlap in product coverage between our articles, we believe our readers to want more and not less of such opinion and information. We have therefore attempted a more exhaustive overview. Descriptions of the below discussed products are a synthesis of what we observed at COMDEX, what we were told and what we heard. The opinions offered are admittedly and unapologetically subjective...more objective discussions and evaluations of the various products will appear in future issues of The MACazine.

WHAT'S NEW!?

LOTUS JAZZ—Long awaited . . . much speculated upon . . . known as Lotus "Macintosh Product" during development . . . JAZZ was finally previewed at COMDEX. JAZZ is a fully integrated business package which includes (a la 1-2-3 or Symphony) sophisticated Word Processing, Spreadsheet, Graphics, Database and Communications capabilities. The demos that Lotus put on were V-E-R-Y impressive, and we think there is little doubt that this is THE program that the business world has been waiting for . . . what Lotus 1-2-3 did for the PC appears to be about to repeat for the Macintosh.

Some of the features of JAZZ include the ability to open and work on two documents at the same time, a "dynamic window" on other parts of the program, a "dynamite" worksheet (8192 rows x 256 columns) that is compatible, via the communications program, with 1-2-3, Symphony, Multiplan and SYLK files on other systems, full feature word processing capabilities, database, graphics and telecommunications.

This is a B-I-G program that takes full advantage of the 512K Macintosh capabilities . . . team them up with a hard disk and network system and it makes the Mac a credible challenger to IBM in the office environment. Release dates of between January and March are variously quoted; we'd expect March after lots of trumpets from both Apple and Lotus beginning around Superbowl time. Watch for a major review in The MACazine.

Lotus Development Corporation, 161 First Street, Cambridge, MA 02142 617/492-7171 or 497-2077.



CX MacBase—Based on what little we saw of this "database" we will risk the prediction that it will be one of the best selling Macintosh products of 1985 following its projected December '84 release. The program represents the latest in what promises to be a steady stream of supersophisticated products which will find their way to the U.S. from Europe . . . it's a French export that's been a bestseller in Europe, and which has received rave reviews there. Developed only for the Macintosh it's been settled around fifth on the European best seller charts behind American products offered in various versions for essentially all other computer systems; that's heavy consumer demand.

The product itself defies capsule description, but is a high powered data management tool which features Word Processing, Charts, Tables, Graphics, Calculation Functions, and more. Interestingly, it interfaces with MacWrite, MacPaint and "most other Macintosh software;" extravagant use is made of Macintosh graphics capabilities. We bet that Apple loves this cross-pollination of Macintosh software; we think "the rest of us" will, too! This is one of the most INNOVATIVE programs that we've seen since Filevision, and like Filevision it may well develop a cult following. Watch for its release and for some exclusive and "different" coverage in The MACazine.

Controle X, P.O. Box 98-40, Triangle Boulevard, Carlstadt, NJ 07072 201/933-8400.

ThinkTank 512—If you liked ThinkTank 128, you're going to love the 512 version. The designers at Living Videotext have upgraded their product to the point that the 128 version is barely recognizable. The 512 product may well be the single most useful Macintosh software item currently available to the "average" user with an interest in words, ideas and plans. It's certainly OUR favorite!

The enhancement not only simplifies the development of planning outlines (as did the 128 version), it now incorporates some outstanding word processing and graphics capabilities which were lacking in the original, but which immeasurably increase the utility of the program. Text can now be integrated into a created outline (up to 35 pages), and pictures, charts, and graphs are supported via the Macintosh scrapbook.

It's scheduled for release in December at a suggested retail price of $245; registered ThinkTank 128 owners can upgrade for $100.

Living Videotext, Inc., 2432 Charleston Road, Mountain View, CA 94043 415/964-6300.

MACPLOT—Another exciting import, this one from the British developer Microspot. MACPLOT is designed to support MacPaint, MacDraw, Microsoft Chart, MacProject and other graphics oriented programs to provide high quality graphics output to a color plotter. Those plotters presently supported are Apple Plotter, Calcomp 81, Graphtec MP1000-01, and Hewlett Packard 7475; other plotters, including those larger than A3 (420 × 297 mms.) will be supported by later versions to be released in early 1985.

The original version of MACPLOT is a 128K Macintosh product, but produces extremely high quality output; we saw it with an Apple Plotter and were very impressed with the results, a sample of which is reproduced below. We assume that the major drawback to the 128K version is in the size of the document file which can be supported by the program, it certainly doesn't affect quality. Microspot promises a "more sophisticated version" exclusively for the 512K Macintosh at a later date. We have no word on how this product is being distributed, but expect to see it available through Apple dealers very shortly.

Microspot, 9 High Street, Lanham, Maidstone, Kent ME17 2QD, England 0622/858753.

HyperDrive—The undisputed hit of the COMDEX among all of the Macintosh product offerings (see also M.U.G. Shots this issue), HyperDrive is a 10 megabyte hard disk drive and 512K RAM expansion unit which is INTERNALLY MOUNTED WITHIN THE MACINTOSH case! It features a 3.5 inch Winchester drive, 5 Mbit/second transfer rate, 85 millisecond average disk access time, encryption capability and supports the original Apple Finder.

The manufacturers, General Computer Company, claim data transfer rates of 20 times faster than floppies, and up to 7 times faster than external Winchesters . . . we heard few arguments from those who witnessed its performance at the show. The only complaint that was widely voiced at COMDEX about the HyperDrive seemed to be that General Computer should have made arrangements to have them installed on the spot. Our biggest concern about the product relates to backup of the hard disk data, but we expect that it's "do-able" . . . the developer seems to have thought of just about everything else.

HyperDrive will be available from your local dealer for about $2795, including the 512K upgrade, or without the upgrade for $2195. That, by the way, appears to be the cheapest upgrade price available.

General Computer Company, 215 First Street, Cambridge, MA 02142 800/422-0101 or 617/492-5500.

MacColby—An ingeniously "repackaged" Macintosh with enough options to satisfy the most jaded Mac user. MacColby is a genuinely portable Macintosh housed in a "fit under airline seats" plastic and aluminum case . . . and it weighs less than your original unit if you leave off some of the optional accessories.

MacColby is offered as either as a complete package or as a conversion of your original Macintosh; the basic conversion of a 128K or 512K machine runs $699, but the options really make it an exciting product. These include 2nd disk drive, 300 or 1200 baud internal modem, internal 10 Mb hard disk, 12V DC battery adaptor, bar code reader and software, video output adaptor board, 12" and 23" outboard monitors in white or amber, and an outboard big screen projector. Prices for the options appear to be very reasonable.

Colby Computer, 849 Independence Avenue, Mountain View, CA 94043 415/968-1410.

SmoothTalker—A speech synthesizer which converts English text from either the keyboard or MacWrite into speech! You really have to hear it to believe it.

First Byte, 2845 Temple Avenue, Long Beach, CA 90806 213/595-7006

MacLion—"The Database For the Rest of Us" according to the developer, CSD Software Design Inc., and from what we saw, they may have it right. This is a true relational database of the type that "the rest of us" have been waiting for. It provides on line "help", excellent use of the Macintosh interface, compatibility with other major software packages, built-in backup, a report writer, forms capability, built-in development language for applications development, a compiler and an inter-



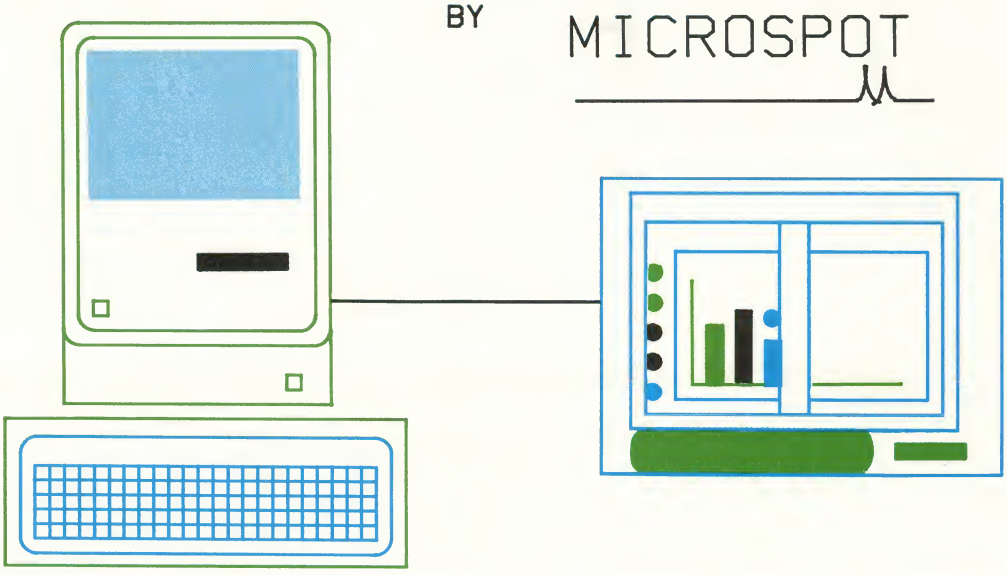
News and information

IBM reportedly has become concerned over the success of the Apple University Consortium program for the Macintosh; so much so that they have apparently arranged to provide Princeton University with 1000 PCs under a "pseudo-consortium" arrangement. If you can't innovate...imitate.

Business Week recently (the week following COMDEX) featured Apple Computer in a major cover story which focused on Apple's strategic planning to move the Macintosh into the offices of the Fortune 500 companies. The article is well worth the effort involved in locating the back issue. At worst the article was a major PR coup...at best it's a great item to lay on the boss's desk or in the reading file at the office.

MACPLOT

BY MICROSPOT



NOW MACINTOSH PLOTS FROM DRAW, CHART AND PROJECT

preter, and what appears to be tremendous data handling capability.

MacLion is also available, interestingly enough, in a runtime version for applications programmers interested in developing their own custom or vertical market systems packages.

CSD Computer Software Design Inc., 1904 Wright Circle, Anaheim, CA 92806 800/252-LION or 714/634-9012.

Other Hardware—Hard disk drives for the Macintosh were much in evidence on the COMDEX premises, and while not all are "new" they deserve a mention and a look by anyone interested in maximizing the Mac's potential. Tecmar showed its improved MacDrive for the Macintosh and MassFile for the Lisa, Quark had its QCI0, Sunol its Sun*Mac and Sun*Disk, Corvus its Omnidrive, and Micro-Design showed off "The Keeper." IOMEGA introduced a "Bernoulli Box" featuring 5Mb cartridges.

Other Software—Financial packages included the Dow Jones Market Manager PLUS, Micromax Systems Gallery Accounting Series, Peachtree's "Back-to-Basics" Accounting Packages for small businesses, and Monogram demoed an improved version of Dollars and Sense as well as their new Forecast tax planning package. We were particularly impressed with Monogram's offerings, and would rate their Dollars and Sense/Forecast package a BEST BUY; the two packages are as well designed and integrated as anything that we've seen for personal financial planning, and are, we think, the benchmark against which all other competition must be measured. Forecast is particularly impressive.

Database/data management packages included Odesta's much heralded and oft delayed Helix, the release date of which remains unclear to us, Software Publishing's PFS:file and PFS:report, Stoneware's DB Master Macintosh, Forethought's FACTFINDER, ProVUE's OverVue and Brock's Keystroke Database. We were most impressed with Helix (of course), Keystroke and FACTFINDER; all strikingly different approaches to data management.

Word processing software included Microsoft's Word which in demo appears to be all that's expected of it, but its release date still seems less than certain . . . our guess (only that) would be late December-early January. We suspect that it's a Key element of Apple's promised office system.

Other products of note include Versatron's FootMouse, a foot manipulated cursor control, Layered, Inc.'s Front Desk scheduling and time accounting system, Artsci's SoftForms business forms software, Warner Software's Desk Organizer desk management system, Ideaform's MacLabeller, Kriya's Typing Tutor III, numerous new digitizers, modems, games, accessories, and more.

All in all COMDEX-Fall should have convinced the most skeptical observer of the Macintosh's "coming of age" with the ready accessibility of ever increasing waves of new software/hardware releases, the likes of which were promised by Apple from the start. As we said, we think it's just the tip of the iceberg, and are excited by the prospect of things yet to come...we think that you should be as well.

A Byte By Any Other Name...The Mainframe On Our Desks

By Phil Klein

Phil Klein is a freelance writer from New York, and a contributor to The MACazine frequently.

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"TELL ME ABOUT YOUR PRESENT JOB," THE interviewee was asked.

"We have a pretty big machine," he said, "a Honeywell-200 with 32-thousand characters of memory."[1]

The year was about 1964, the interviewee could have been the author. The bold-face text marks a place where time has changed our ways of expressing ourselves. Today "thousand" is "K" and "characters" are called "bytes".

The word "byte" dates to about that year, when a couple of wags building a "big blue" machine called the "360" thought they had sufficient reason to call a character something else.

Many non-technicians and technicians alike have been disgusted with the word ever since. Even at the time the IBM/360 family was invented, other suitable words existed. For example, technicians at the Associated Press, transmitting text via teletype machines, used paper tape by punching each "character" into a slice of the tape's width called a "frame".

Why do computer people go to extremes naming such a small thing? Because a byte, which is often a character, is as often something else.

Here's a short list of what a byte might be . . .

DIAGRAM A: A code for a letter, digit or punctuation character composed of eight bits, as stored in memory by MacWrite.

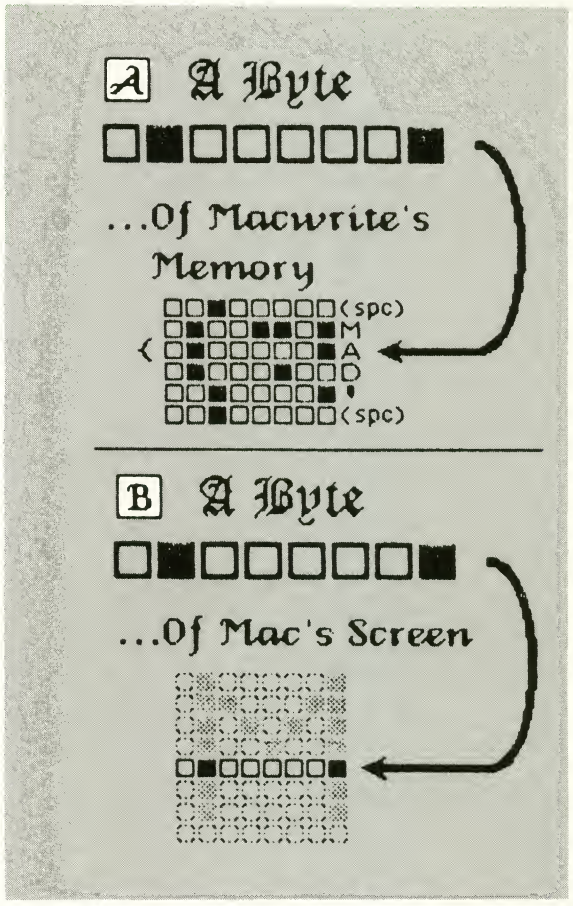
DIAGRAM B: A horizontal row of eight pixels on a Macintosh screen, as displayed by MacPaint.

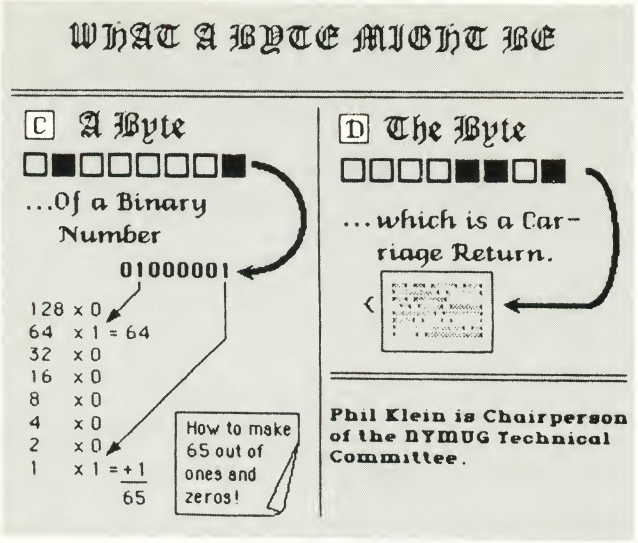
DIAGRAM C: Eight bits of a binary number, used for counting, summing or painting.

DIAGRAM D: A code, (or part of one) telling a machine what to do, once the machine discovers it.

The only thing that makes a computer complicated is the number of functions one byte might have. Looking at an eight-bit byte tells you nothing about what it is for![2]

Three of the bytes in the accompanying illustrations are identical. Or are they? Looking at the slice of MacWrite's memory we see a "stack" of 6 bytes, which spell out the word "MAD!" preceded and followed by a space.





Each letter, number and character in the alphabet is represented by a specific combination of bits within a byte. For example, a "space" byte has only one bit "on" (represented by a blackened square in the diagram), while a capital M has 4 bits "on". The letter "A" has two bits on and is illustrated at the top of the diagram. In another illustration we show how the exact same combination of bits as in the letter "A" can also represent the number 65. In this case "01000001" also serves as a binary number, storing the number 65 using only zeros and ones. The Macintosh screen also uses bits to turn on and off the screen's pixels. The same bit combination as in the letter "A" is shown in another diagram as part of an "M" on the Mac's screen.

Finally, we show that only one byte, representing a carriage return, is used to mean "start a new paragraph here" in MacWrite and other word processors.

The Macintosh, or rather its Motorola 68000 microprocessor chip, also has two-byte instructions which we haven't discussed. We'll take the 68000 for a short spin in some future column.

1. The Macintosh has 128-thousand characters(K) of user memory and 192K if you count the ROM memory. —ELS

2. A bit is another strange word. A byte consists of 8 bits. A bit is the basic building block for computers and is nothing more than an on or off signal. —ELS

As we fuss over whether to upgrade to a Fat Mac, it's time to get down to basics. Just how good is our favorite, if invisible, silicon chip—the Motorola MC68000?

The design of a computer's central processor is critical to the convenience of programming any computer—mainframe or micro. Processor architecture can make programming difficult or easy, depending on the capability and logic of its design.

There's a mainframe on your desk. We're about to compare your microchip to certain "big, blue" business machines! But before we attempt some comparisons, it's important that we define a term or two.

A register is built into a microprocessor the way an odometer is put in a car. The two items function the same way—holding numbers—but use a different "brand" of arithmetic. You and I and odometers talk decimal. Computer registers, like computer bytes, are rows of bits and use binary arithmetic.



Despite their differences, adding 1 to a binary register is like rolling up a tenth of a mile on the odometer. Most odometers are six digits wide. That is, they only roll to 99,999.9 miles. Registers, it turns out, vary greatly in width.

The Apple: 5 One-byters

In the classic Apple II, the 6502 microprocessor has only 5 registers, each only one byte wide.

How big a number fits into a byte? Each byte is composed of 8 bits. There are two "colors" or "states" for any bit, basically on and off. Thus, we write two down eight times and multiply to answer our question . . . 2×2×2×2×2×2×2×2 = 256). This shows there are 256 bit patterns in a byte. Handling a large number on the old Apple (anything bigger than the 100 ballpark) is slow, clumsy and a large nuisance.

The PC: 14 by two.

A very different microprocessor chip is present in the "big blue" PC, where Intel's 8088 is the ringmaster. For a long time the PC has been giving Apple a run for its money because its registers are two bytes wide and it has 14 of them.

The Mac: 18.5 by 4.

The Mac's 68000 includes precisely 19 registers and every one (but a 2-byte "status" register) is 4 bytes wide. We have Motorola to *thank* for putting so much into a single chip.

As Bill Atkinson has pointed out, once you pack data in these registers, nothing—not even the width of the data bus—slows completion of an instruction.

The Mainframe: Only 16 by 4?

IBM mainframes, 360's or 370's or 308I's, only let a programmer work with 16 four-byte registers. Don't let some mainframe programmer look down his nose at you. Tell your "pro" friends they ought to change hardware!

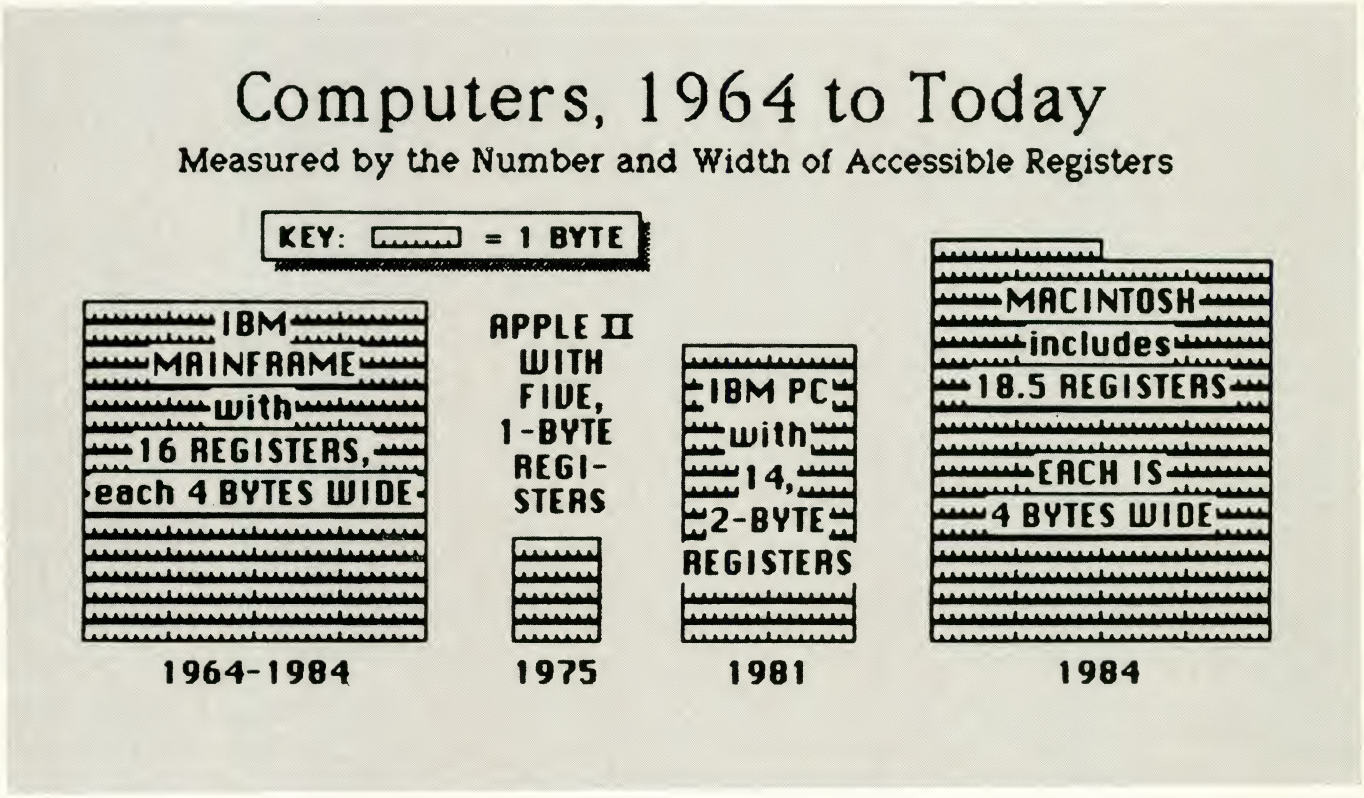
It has been reported that "big Blue" is tinkering with the 68000 to make it into a "micro-360" mainframe look-alike. To the author, that's like putting running boards on a Mercedes.

So take note: ignoring time factors, memory size and I/O devices, your Mac is as capable as mainframes once were.

Will the 68000 go the way of older hardware? Will it disappear into the technological trash heap? Not soon. Its architectural similarity to mainframes indicates it will have considerable longevity. It's already given birth to a child, the 68020, which is code-compatible with the 68000, similar in design and even more powerful.

Soon we'll compare the address spans in the same machines. You'll like the news again.

Now . . . if only a Fat Mac were cheap!



Review: Dollars and $ense

by John Venable

(The following review is reprinted from the Volume 1, #4 ICONCEPTS, as the first of a two part series on Monogram's Dollars and Sense and Forecast packages. Next month we will feature part two on Version 1.2 of Dollars and Sense and its sister package, Forecast. John Venable is a free lance author/reviewer from Greenville, MS. He is a regular contributor to The MACazine. Ed.)

Managing one's finances is much like dieting or exercise: everyone knows they should do it, but few have the discipline to follow through. Anyone who has tried to keep a budget manually has probably found it to be a time-consuming, often frustrating task. *Dollars and Sense* by Monogram may well be the answer for those people serious about getting their financial act together. More than just a budgeting tool (it is certainly that), *Dollars and Sense* can help you analyze expenses ("Where did all my money go?"), reconcile bank statements, perform "What if" analyses ("Suppose we buy a boat, can we afford it?"), maintain a household inventory, prepare your taxes, and even print your checks.

Designed primarily for home or small business use, this program requires a 128K Mac and extra disks to store and backup your records. Monogram "recommends" a second disk drive. In my view, it's mandatory, unless you want to constantly switch disks (after all, we want to make it easy). A rudimentary knowledge of accounting or bookkeeping is helpful, but the well-written manual gives a good overview of the essentials.

Getting Started

Your financial records can be thought of as a set of accounts, or money categories such as Mortgage Payments, Child Care and Property Taxes. Each time money flows in or out of your hands (a "transaction") it goes from one account (such as checking) into one or more other accounts (groceries, insurance, savings, etc.). Accounts fall into one of five possible "types":

- Assets ------things you own such as cars, house, furniture;
- Checking--bank accounts usually;
- Expenses -these are where your money goes—Utilities, Groceries;
- Income -----this is the source of youir money—salary, dividends, interest; and
- Liabilities--these are your debts—mortgages, loans and credit cards.

To use *Dollars and Sense*, you must first create a set of accounts which best reflects your circumstances. To help you out, the program comes with three sets of accounts for Home, Business, and Tax Preparation. A little

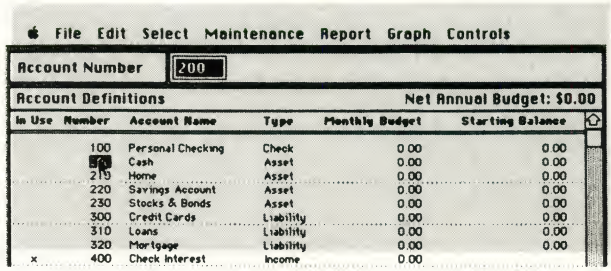


Figure 1: Account Definitions. This is a partial listing of the Home set of accounts. Note the top bar displaying the Account Number item. This is where you enter information.

advance preparation here will be helpful before sitting down at the Mac. You will want to establish "ground rules" for which type of transactions go into which accounts. For example, should babysitter expenses be recorded under Entertainment Expense, Child Care, or Miscellaneous? The answer is it depends on your circumstances; just try to be reasonably consistent about your classification. But don't get too bogged down here; *Dollars and Sense* allows you to add accounts and change the account classification of any transaction at any time.

To set up your accounts, open a new file using the File menu. You are asked to enter a file name (John & Mary Doe), the year in which you are beginning, and the month your fiscal year begins (which for most of us is January or month 1). You may select one of the three sets of accounts that come with the program or you may start from scratch. In the following examples, I assume that you select the Home set of accounts.

Most likely, you will want to modify the accounts selected and add budget information and starting balances. To do this, select Account Definitions from the Select menu. The screen shown in Figure 1 will appear, listing the Home account set you selected previously. The bar at the top of the screen displays the information in the item selected. In this example, an Account Number is selected, which is an arbitrary number the computer uses to track accounts. You may use the numbers provided or type in one of your own. It's a good idea to use groups of numbers for a particular type of account; e.g., Expenses are numbered 500-599. You may also change any account name by simply selecting it, typing the new name, and pressing RETURN. To add or delete accounts, there is an option for each in the Edit menu. You may have up to 120 accounts, including 12 Checking accounts.

Now that you have your accounts, it's time now to fill in budget amounts and starting balances. As you select budget items for your accounts, the top bar will display two options. One is a box in which you would type the average monthly budget amount. Use this option for those accounts which may vary only slightly from month to month, such as mortgage payments or utilities. If you expect an account to vary substantially, click the Variable button. Another window will appear displaying the months of the year and spaces for the budget amounts per month. Type in amounts for the appropriate month(s) and hit RETURN. This budgeting feature is useful for items such as quarterly insurance payments, year-end bonuses you expect to get, dividends, and vacations. You may have up to 32 accounts with variable budgets.

As you enter your budget amounts, you'll notice the Net Budget Amount change (located in the upper right portion of the screen). This is a running total of your budget amounts, both inflow and outgo. By the time you're finished budgeting, this Net Budget Amount will hopefully be above zero. If not, it's time to rethink your budget and commit yourself to an austerity program. Either that or create a new Liability account entitled "Loans from Parents".

Next, fill in beginning balances, the current amounts for certain accounts. The most important balances are for your checking account and liability accounts. Note that not all accounts will have beginning balances or budgets. When finished, select End Edit from the Edit menu and elect to save your accounts.

You can use the same procedure described above to perform "what if" analyses. For instance, suppose you expect a raise and think you can afford a boat. You can enter the Account Definition mode and create accounts to record your expected boat expenses, such as loan payments, maintenance accounts, moorage, etc. Then revise your Salary account budget to reflect the expected raise. If your Net Budget Amount is below zero, you might decide to reduce your Vacation or Entertainment budgets accordingly. Once you figure out how to afford your boat (or conclude that you can't) select End Edit. This time, however, don't save your changes; after all, this was a "What If."

The final setup chore is to enter information about your checking account(s). The program will automatically ask for it when you first try to enter transactions. You will enter the names on the account, bank or S&L name, next check number, and account number. *Dollars and Sense* uses this information for printing checks and automatically sequencing your checks as you enter transactions.

Using *Dollars and $ense*

Now you're ready to enter transactions. After selecting New Transactions from the Select menu, you will be asked to choose which base account to use. Most of your transactions will be in the form of checks, so select Checking Account from the list. The screen shown in Figure 2 will appear, with the first item under the Clear column selected. Since this transaction (check) has not cleared, hit TAB to ignore. Next, the Date will be selected with the last date entered as the default value. Retype the correct date and hit TAB. The program checks invalid dates, but will accept dates out of sequence. The default value for the Check number will be the next check number in sequence. Again, you can change this. Under the Description, you will type to whom the check was written. Next comes the Distribution Account, or "what this check went for." No need to type the entire name; just type the first two or three letters. The program will display the closest match in the top bar. If it isn't the right one, hold the command key and hit < or > to scroll through the available accounts. When the right one appears, hit TAB to accept. The Tax column allows you to flag transactions as tax related; a handy feature come April 15th. Finally, enter the amount of the check. That's all there is to it!

Dollars and $ense also allows you to "split" your check among two or more accounts, enter deposits, void checks, and record miscellaneous transactions. One of the most attractive features of this program is the ability to create up to 25 sets of automatic transactions to record reoccurring items such as paycheck deposits, mortgage payments, and the like. This is a significant time-saver.

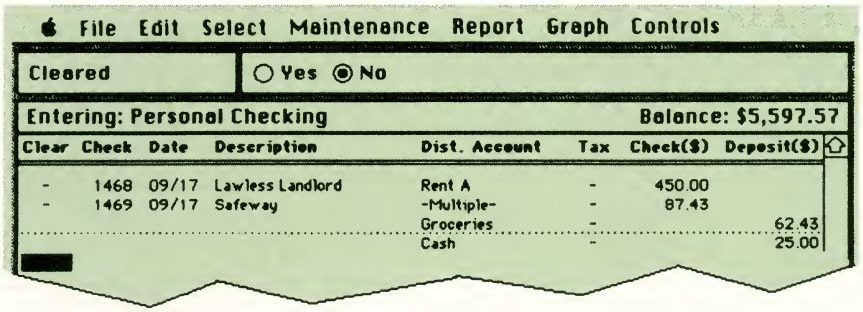


Figure 2: New Transactions. The Balance figure keeps a running total of your checking account. Notice how the Safeway check was split among two accounts: one for the groceries, one for cash. Dollars and $ense also handles deposits, voided checks, and miscellaneous transactions with this window.

After you record your checks, the program can print them for you. Form-fed pre-printed checks must be used, and the manual lists several mail order houses which supply the correct form. Unless you usually write a large number of checks at one sitting, say more than 25, don't be swayed by this feature. You won't save much time, and you'll pay a lot for the checks.

For those of you who would rather die than balance your checkbook, *Dollars and $ense* includes a reconciliation procedure which may be of some help. Other features include the ability to extend your account balances into a new file at the beginning of a new year, create backup copies of your files while still in the program environment (neat!), and call up and edit past transactions to your heart's content.

The big payoff comes when you're ready to see your results. Seven different reports are available: Account YTD summary; Transaction summary; Monthly Budget

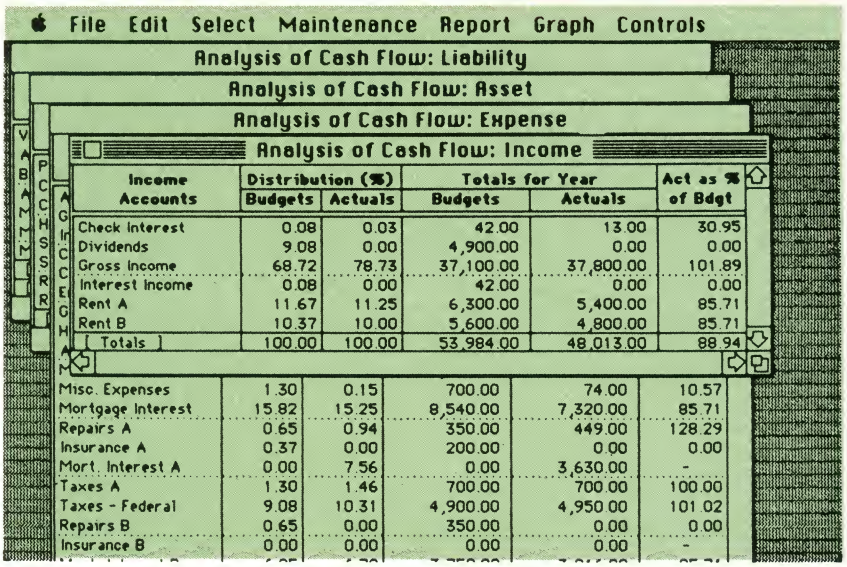


Figure 3: Dollars and Sense provides seven different reports. The one shown is the Cash Flow report. Each report is a separate window, allowing you to rearrange them to suit your needs. Pie and bar graphs are also available.

Totals; Monthly Actual Totals; Income Statement; Balance; and Cash Flow. Each report is displayed as a separate window, allowing you to arrange several on the screen at once to suit your needs (Figure 3). Reports can also be displayed or printed in a narrow or wide format. This normally eliminates the need for horizontal scrolling when displayed or the need for two pages to print one report. The Income, Balance Sheet, and Cash Flow statements can be printed for different time periods: Year-to-Date, Annual, or by Quarters. The Transaction Summary displays all transactions, or allows you to select only certain transactions using a number of different criteria. You may select tax-related items, checks of a certain dollar amount, transactions by date or check range or account type, or transactions for a particular payee. Powerful!

At first, you may be overwhelmed by the variety of reports, but you'll quickly choose those that are most useful for you. The Monthly Budget Totals report need only be printed once, or whenever you change your budget. This report will tell you which month(s) you may have a cash bind, even though your budget for the year is in balance. You can then plan to stretch payments, borrow money, or defer expenditures in those months. The Cash Flow statement is useful to compare budget to actual totals. You can identify the accounts that are getting out of line, and hopefully take corrective action. You will probably use the Transaction Summary report to select all tax-related items for help in preparing your tax return. Businesses will take advantage of the Income and Balance Sheet reports. There's something here for everybody.

For you executive types who only want to look at the "big picture", you have at your disposal a comprehensive set of graphs. The graphs use "composite accounts" which you create. Composite accounts are simply groups of accounts which bear some relationship to each other. You may display up to 12 accounts or composite accounts on one graph. Both pie-shaped and bar graphs are available.

Drawbacks/Improvements

I had to scratch to find any, since *Dollars and Sense* is the most well-designed program I've used, but I came up with a few.

The program makes you start over at the beginning of your next fiscal year, although it does carry over your account balances automatically. I would rather have a rolling twelve-month period to look at. You cannot design your own reports, which may be a minor drawback to business users. When printing checks, if you want to include the payees' addresses, you have to type them in each time. It would be nice to have a permanent file and look-up procedure to avoid this. But you can't have everything.

Summary

This is not a comparative review, since I've only seen this one home accounting program. However, I can't imagine another program offering more in the way of flexibility, ease of use, and power. I enthusiastically recommend *Dollars and Sense* to those serious about managing their money. For those who are not sure they have the discipline, have your dealer make a copy of the Limited Edition (limited by the number of transactions you can save). Take it home and use if for a couple of days. I think you'll be impressed.

Dollars and Sense
Monogram
8295 S. La Cienega Blvd.
(213) 215-0529
List Price: $149.95

MAC-STUFF

ThunderScan™—For our money, the neatest digitizer design concept of them all. Add application software written by Macintosh Development Team member Andy Herzfeld (Mr. MacPaint), and you have a "dandy" digitizer package called ThunderScan from Thunderware, Inc.

The digitizer itself is smaller than an Imagewriter ribbon cartridge and, to operate, "pops" into the cartridge holder; digitizing is accomplished by placing the graphics to be digitized into the imagewriter roller (just as you would load a sheet of paper) where it is automatically scanned by the ThunderScan head and input to the Macintosh as a very high quality, hi-res MacPaint document.

The manufacturer claims 200 dots per inch resolution and a 32 shade gray scale . . . seeing is believing! Priced at $229 (on-half to one-fourth the cost of similar products the Thunder Scan unit has to be rated as a "best buy".

Thunderware, Inc., 196 Orinda Way, Orinda, CA 94563
415/254-6581.

Electric Checkbook™—An ideal home financial package for the family financial officer, Electric Checkbook from State Of The Art essentially allows you to do everything on the Macintosh that you can do with your checkbook . . . and more. It handles multiple bank accounts, stores and utilizes both one-checks on a user definable format, performs automatic statement reconciliation, and generates a variety of reports. The program is simple (but sophisticated), runs on the 128K Macintosh, makes full use of the interface, and is a great buy at $79.95.

State Of The Art, 3191-C Airport Loop, Costa Mesa, California 92626
714/850-0111.

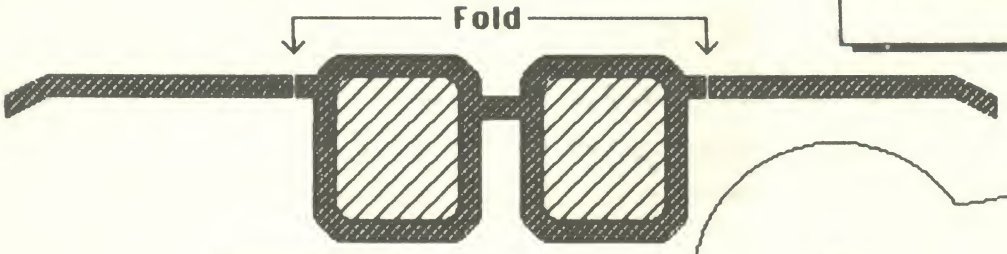
MASTERTYPE™—Scarborough Systems has recently announced the release of its MASTERTYPE program for the Macintosh. There's no arguing with success; this is the arcade game format typing program which has been a consistent best seller on the IIe and other systems, having sold over 300,000 packages. It bears the designation "NEA Teacher Certified." Suggested retail, at your dealer's, $39.95.

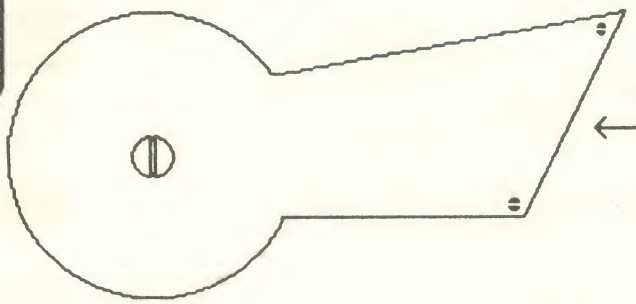
RUN FOR THE MONEY™, Scarborough's family oriented, arcade action business game is also scheduled for release on the Macintosh near term.

Scarborough Systems, Inc. 25 N. Broadway, Tarrytown, NY 10591
914/332-4545.

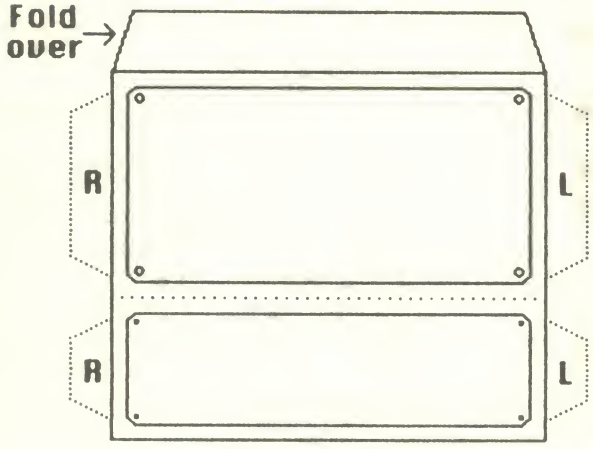


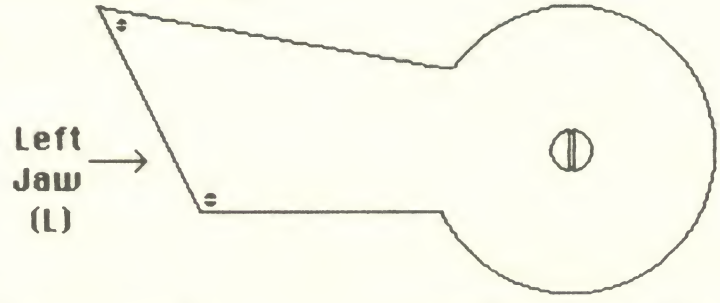
ChipKit Model 1a
Copyright © 1984 DISCOURSE, Inc.
Sheet 2 of 2

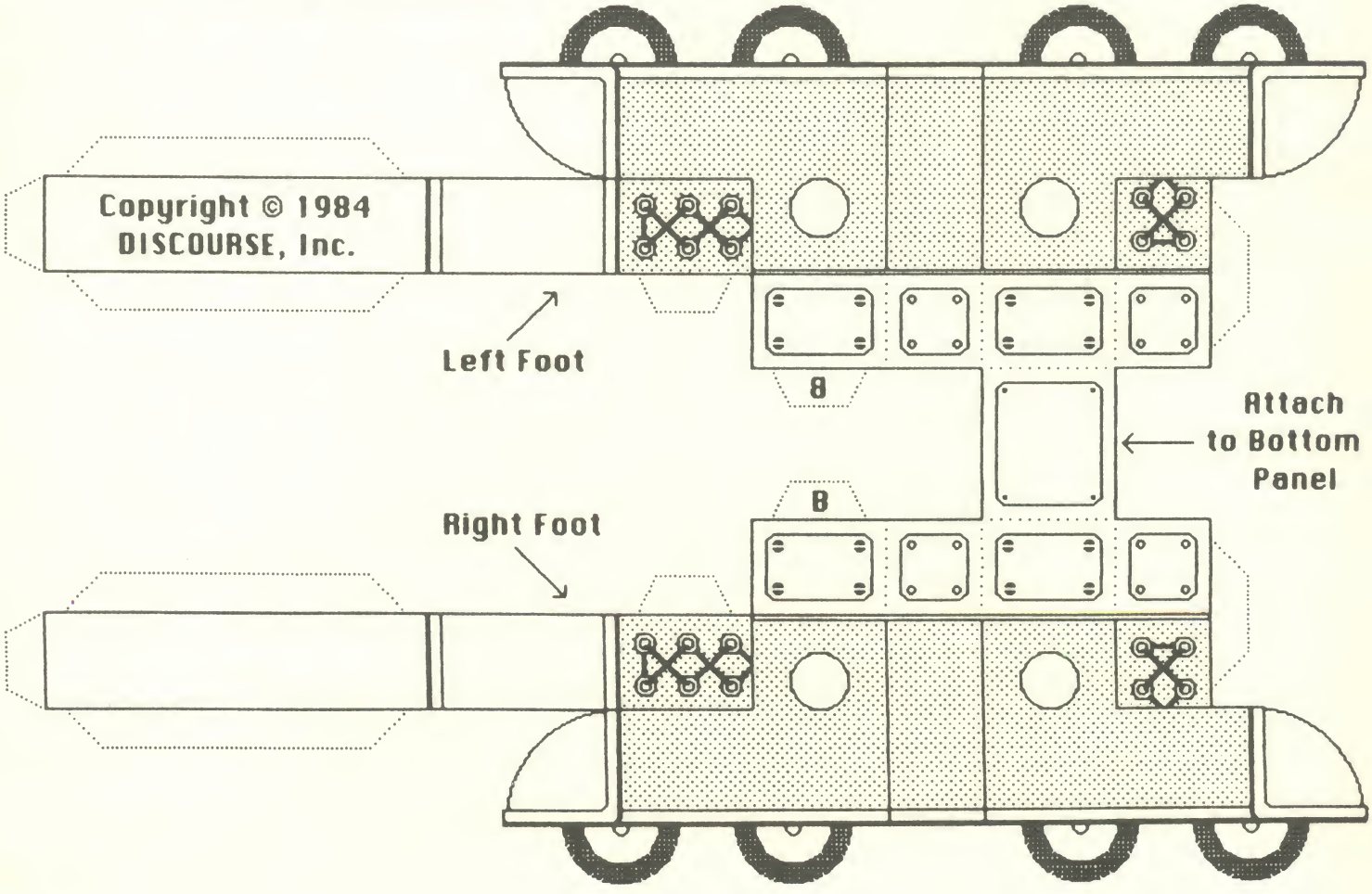




Lower Jaw

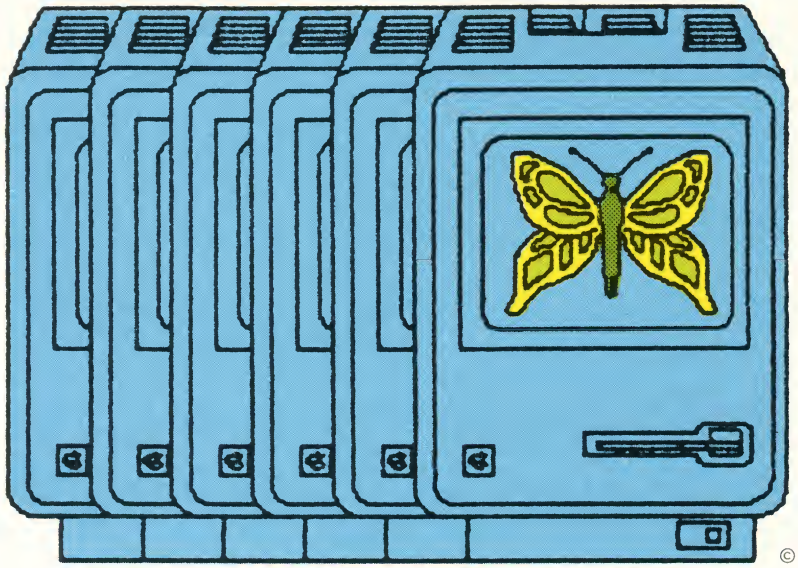






Compliments of





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Typing Intrigue™—How in the world do you make a typing tutor interesting enough to be enjoyable . . . can it be made interesting enough for a teenager?

We think that Forethought, Inc. may have used enough forethought to answer the question and solve the problem. Typing Intrigue is billed as a "A typing tutor with a mystery twist", and our inspection suggests that it just may have enough flair to make learning to type an interesting experience. Woven into the fabric of the typing program is a "fun" mystery to be solved . . ."The Case Of The Missing Bathtub." The user must type, and progress, in order to reach the end of the mystery. A second game option called "Rain" will also challenge the user with an arcade-style approach.

It's exceptionally well done, and might be expected to hold the attention of either a teenager or an adult. It's recommended for ages 12 to adult, and is priced at $49.95 at your dealer's.

Forethought, Inc., 1973 Landings Drive, Mountain View, CA 94043 415/961-4720.

BACK TO BASICS™ Peachtree's Back to Basics General Ledger package has been released in it's Macintosh version, and it's going to be a big seller. Hardly a day passes when we don't get a call from business and professional Mac users looking for a good accounting package, and this one will satisfy a lot of those needs. It's a double entry system that needs no introduction to those who've used in on other machines where it's been a best seller on all the charts.

Back to Basics is ingeniously designed to make maximum use of the Mac interface, is nearly foolproof in it's sophisticated simplicity, and won't be a program which will frighten the non-accountant. It supports Cut, Copy and Paste, features on-line help through a pull down menu, and is fully interactive with Peachtree's Accounts Receivable and Payable modules which will be released at a later date.

If you're looking for a top-notch accounting system for your business, you should probably check this one out . . . it's pure quality.

Peachtree Software, 3445 Peachtree Road, N.E., 8th Floor, Atlanta, GA 30326 800/554-8900.

MacLabeler™—Here's a fantastic "little" program that ought to be on every Macintosh owner's desk. Everybody needs disk labels, and MacLabeler makes them . . . fast . . . by reading the document and file names from the disk and putting them onto the label stock. It will also display, sort and print a complete disk directory. . . insert the disk and see the complete contents immediately. . . no waiting $49.95.

IDEAFORM INC., P.O. Box 1540, Fairfield, IA 52556 515/472-7256.

Neon™—A NEW programming language for the Macintosh from Kriya Systems, Inc., Neon is described as "state of the art, object oriented programming" in a Smalltalk-like environment.

Neon, as we understand it, is a composite language of both FORTH and 68000 assembly language which allows for concise, high-speed code. It allows direct access to all Macintosh features in the Toolbox.

Neon was used in the writing of Kriya's Typing Tutor III. The price of $150 includes a full license to use Neon in your own products.

Kriya Systems, Inc., 505 N. Lakeshore Drive #5510, Chicago, IL 60611 312/822-0624.

MACTYPE™—From Palantir Software, this "typing tutor" approaches the instruction from a much more business-like direction . . . no games, no gimmicks, just a very sophisticated tutorial program that works . . . well. This may well be the program that will catch on in the schools and in business as a result of it's ability to track the progress of numerous students/job candidates. A very nice program. We at The MACazine use it for training secretarial personnel on the Macintosh keyboard and testing new clerical personnel.

Palantir Software, 12777 Jones Road, Suite 100, Houston TX 77070 713/955-8880.

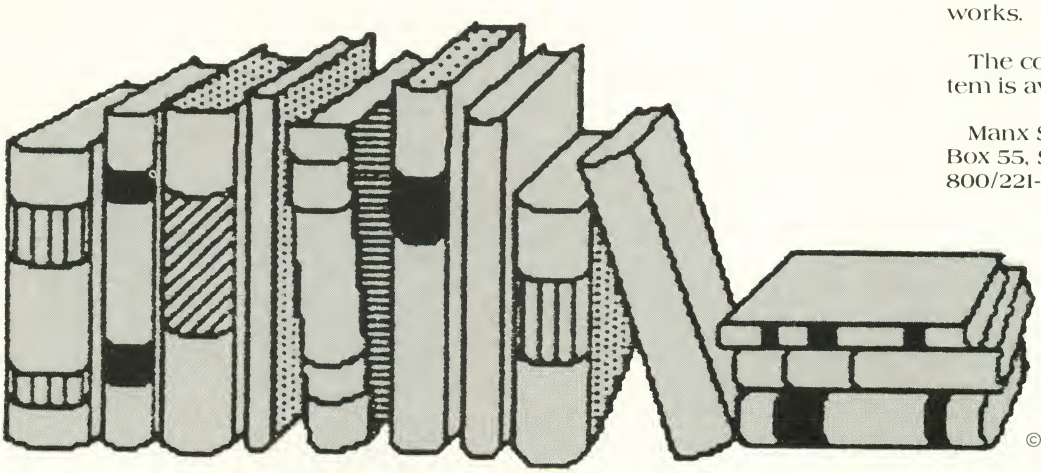
MIND PROBER™—Human Edge's Mind Prober is NOT A game, but a "personality profiler" of significant dimension . . . for the serious student of people, their personalities and behavior . . . their own or others. It produces a lengthy personality profile on any subject in less time than it takes to tell about it. Watch for a review in the next issue of The MACazine. If you can't wait, get it now from your dealer; $49.97.

Human Edge Software Corporation, 2445 Faber Place, Palo Alto, CA 94303 800/624-5227 (in California 800/824-7325.)

Aztec C68K™—The Manx Aztec C68K-c software development system is a "complete programming environment" which includes a Compiler that generates in-line traps for ROM calls, a UNIX™-like Shell with built-in commands, a Full Screen Editor, a Macro Assembler, a Linker, a Librarian, Utilities (including a terminal program), a Full TOOLBOX, and a full Standard UNIX I/O Library. A Resource Editor and a Symbolic Debugger are still in the works.

The complete Commercial System is available for $499.

Manx Software Systems, Inc., P.O. Box 55, Shrewsbury, NJ 07701 800/221-0440.



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New Books

Microsoft Macinations: An introduction to Microsoft BASIC for the Apple Macintosh" by The Waite Group; Mitchell Waite and Jay Stryker, and

"Inside MacPaint-Sailing Through the Sea of FatBits on a Single-Pixel Raft" by Jeffrey S. Young

Both of these books are due to be released by Microsoft in January 1985; prices are $14.95 and $18.95 respectively.

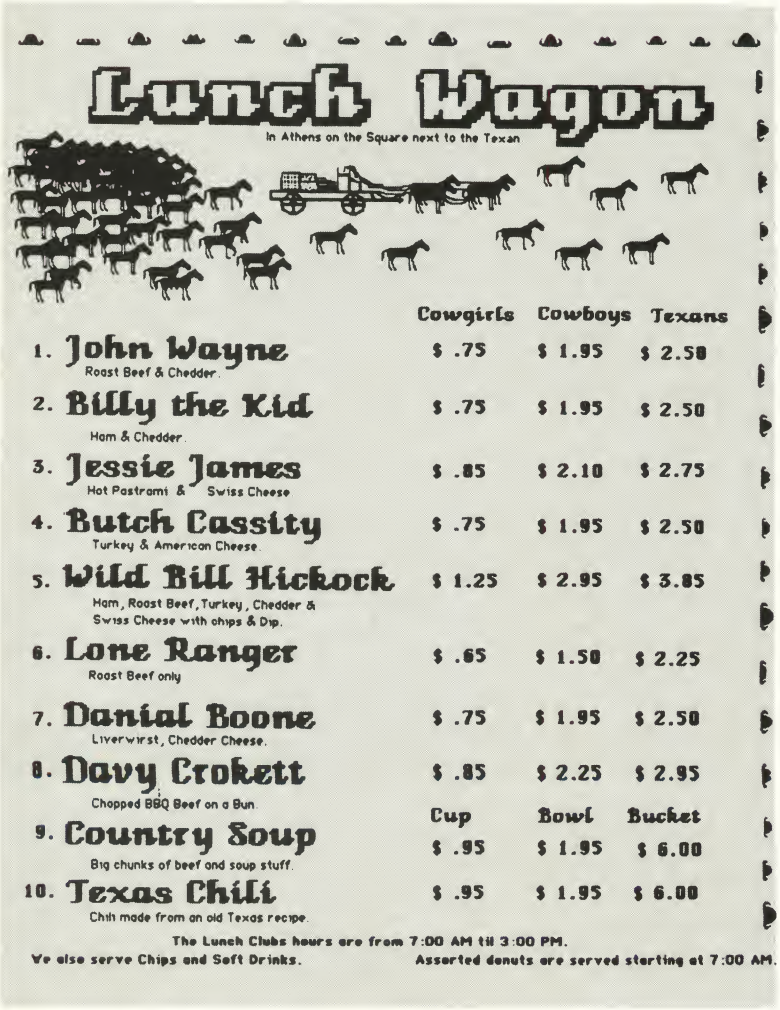
REAL POKER™—Here's a fast and challenging game of "real poker" featuring three levels of play. It can challenge experts in the High Speed mode, or teach a beginner in the Teach mode.

The program puts you into a six-player, pot-limit game in which you attempt to take your opponent's money. . . but, watch out for "Shadie Sadie" and "One-Arm Jack". . . they're rough. A thoroughly "fun" package! $39.95.

Henderson and Associates, 980 Henderson Avenue, Sunnyvale, CA 94086 408/246-8939.



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Oh Say Can You "C"?

A Review Of Two C Compilers For The Mac
By Gerald H. Ablan, Jr.

strobe.c

```
#define SCREEN 0x7a700

main()
{
    long *x;
    int i,j;

    for (j=1; j<=50; j++)
      {
    x = (long *)SCREEN;
    i = 5472;
    do  {
        *x = ~*x;
        x++;
    } while (--i);
      }
}
```

Benchmark C Program

During the Macintosh's childhood, MicroSoft BASIC was the only "programming language" available. Though this crude, mockery of a language, for a computer as suave as the Mac, is limited, we overcame the bugs, and the inability to create programs that use menus or windows. It was as though MicroSoft felt they had to throw something together just so they had software available for the Mac.

But all hope is not lost! Creative Solutions, Inc. announced MacForth Levels one and two. The power held within MacForth is not to be toyed with. One may create windows, menus, resources, fantastically fast graphics, and other wonderful things. But FORTH is a very difficult language to comprehend. It uses post-fix, or Reverse Polish notation, where arguments are laid on a stack and functions "pop" the stack to retrieve the arguments. This eliminates the need for many variables, but also makes the code difficult to read and debug.

Enter the C language. C is an all-purpose language. The UNIX operating system and its software are written in C. C, however, is not seen only on UNIX based machines, it is available on most eight and sixteen bit microcomputers.

C is termed a "low level" language. This is because it resembles Assembler in the way that it deals with things, like addresses, pointers, and handles. C has no complex string or numeric functions like BASIC's MID$ and SIN, COS, etc. Nor has it any disk access facilities like INPUT#, or PRINT#. One must define these statements as functions. Most C compilers come with these functions, however. C is a linear, block structured language.

Without these "taken for granted" functions, one may feel C is an incomplete language. On the contrary! The lack of these functions allows learning C to be very simple, and keeps program size down. A C compiler can be written easily, in any language.

This article will discuss two C compilers: Hippo-C from Hippopotamus Software, and Megamax C from Megamax, Inc. Manx Software Systems was asked to submit a copy of their Aztec C68K-C for review, but it was unavailable at the time of this writing.

The first C compiler I received was Hippo-C from Hippopotamus Software. Hippo-C is a powerful and friendly C programming environment, and comes with the Hippo Operating System (HOS). This is kind of a UNIX shell for the Mac. I found it quite useful when doing any disk related operations.

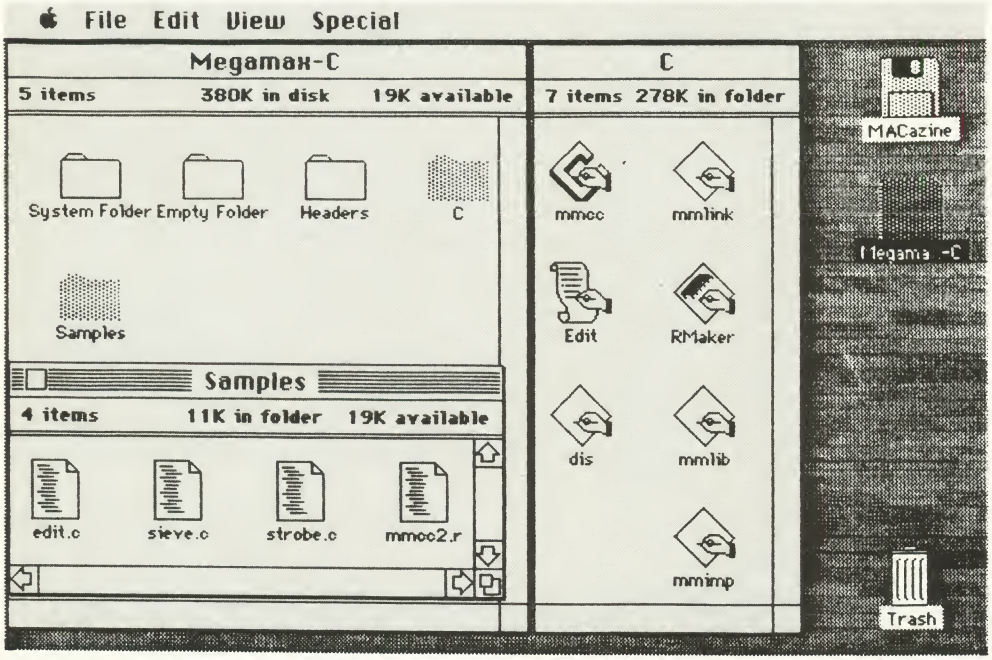
The Hippo-C documentation is good. It comes in a small 9 x 7 inch hardback three ring binder. It is well

written and easy on the eyes. The entire manual, except for the *Inside Macintosh* selections, were created with MacWrite. The *Inside Macintosh* selections are reduced originals.

The Megamax C manual comes in a standard three ring binder, and was also created with MacWrite. More on the documentation later.

What You Get For Your Money

The Hippo-C, which retails for $149.95 (Level I), comes with a compiler, linker, assembler, an on-line debugger, an on-line editor, an on-line tutorial, and sample programs. The sample programs are: 1) a program to convert a Hippo-C file to a MacWrite file, 2) a demonstration of printing text to the screen, 3) a program to convert an entire file to uppercase, 4) a demonstration of using the mouse (very simple), 5 and 6 are sample graphics programs which demonstrate drawing lines, rectangles, and animation, 7) a program to demonstrate creating a new window, and a small collection of useful library routines.



Megamax-C Disk Directory

Hippo-C's on-line tutorial is extremely helpful to a novice C programmer, but it takes up a lot of disk space. They suggest moving the tutorial to a separate disk. You can backup the Hippo-C disk, but it must be in a drive during the compilation process. It also comes with a printer spooler as a desk accessory. This is an excellent utility to have. It frees up your computer while it is printing. For those of you with CE Software's Desk Accessory Mover ver. 1.3, you can put the printer spooler on any disk you want.

Megamax C, which retails for $299.95, comes with a compiler, linker, code improver, librarian, text editor, a disassembler, a resource maker, and sample programs. There is no Finder on the system disk, and they suggest that you copy the code improver, librarian, resource maker, disassembler, and the sample programs to another disk as they are not needed for development.

Hippo-C Level I does not claim to be a development system. It is not. You can produce "double-clickable" applications, but they must be on the Hippo-C system disk to run, otherwise you get an "An Application Can Not Be Found To Open This" error. This is because Hippo-C Level I produces pseudo code, which is then interpreted by the Hippo-C program. Level one allows convenient access to over 380 Toolbox and QuickDraw routines, but no floating point (a very big drawback).

Level 2 will have all of the features of Level I, plus an optimizing compiler, assembler, linker, and full floating point support. It also will cost you $250.00 to upgrade from Level I to Level 2.

On the other hand, Megamax C boasts their product as a development system, and that it is. It comes with almost everything you need to create stand alone "double clickable" applications. Hippo-C Level 2 will be the same way, when it is released.

The Hippo-C is an excellent programming environment. You have everything you would need right there in front of you, whereas the Megamax C is divided up into separate programs. You must first create your file with EDIT, then compile it, then link it. Each program does allow you to transfer control to another program (i.e. go from the text editor to the compiler without going to the desktop).

Both compilers utilize the 20K of screen memory during compilation to allow for larger programs. The Hippo-C does give you the option of not using it (Super-Charger option), but at the expense of valuable memory space. Hippo-C. They do suggest that you keep your programs in modules of less than 200 lines each.

The Megamax C supports and in-line assembly, that is, you can place 68000 Assembly code directly into your C programs. Normal control structure, input and output, and complex data structures would be written in C, while lower-level routines can easily be written in assembly language within the same program.

The Megamax disk comes with a sample program showing the difference of inverting the screen fifty (50) times with a normal C program, and then with the in-line assembly. The difference is astounding.

C claims to be eighty percent (80%) portable, but not between Hippo and Megamax. I wrote a small program in Hippo-C to draw a line from the center of the screen

to the edge of the screen, in a counter-clockwise motion, and adding a space in between lines after every full rotation. It ran beautifully, and took about three minutes to complete fifty cycles.

Then I tried to compile it with the Megamax C.

First of all, the text files created with Hippo-C are not compatible with the Megamax editor. You first have to change the file type and creator using a disk file editor, then you have to put in carriage returns at the end of each line. Secondly, it did not compile the first line. I modified, and modified, and finally got it working.

My benchmark test between the two compilers was part of a program supplied on the Megamax disk. It inverts the screen fifty times (q.v. Figure 1). Here are the results:

	Megamax	Hippo
Total Compile Time	41.3 Seconds	1 Minute 18.3 Seconds
Total Execution Time	11.4 Seconds	24.8 Seconds

I was amazed at the difference in execution speed. When Hippo-C ran the program, you could follow the inversion process, unlike the Megamax-C; it was difficult to keep up with it.

Documentation

The Hippo-C manual is very comprehensive. It explains most Toolbox and Quickdraw routines, what they do, what arguments are to be passed, and how to call them. They do not however give you any example programs using most of the functions. I found this quite disturbing when trying to create a menu with Hippo-C. There were a few other things that were kind of mysterious to me. So I called Mr. Wendell Brown, President of Hippopotamus Software, and asked him how to use certain functions. He was very polite, and helped me substantially with my problems. One problem I found most annoying with the Hippo-C manual is that it does not list explanations of compiler error messages. The same goes for the Megamax-C.

The Megamax Manual is also very comprehensive. It does not explain any routines, but it lists all that are available, and what arguments are to be passed. I wound up going back and forth between the manuals to find out different things about Toolbox and QuickDraw routines. This manual is written for the software developer. A first-time computer owner would be very disappointed with the documentation.

So which one should I buy?

Right now, I know of five C compilers on the market. Hippo, Megamax, Manx, Consulair, and Softworks. Consulair C and Softworks C were not included in this article, and Manx's product was not released. So, for the average hobbyist who wants to learn C and do a little programming in C for fun, I strongly suggest you buy Hippo-C. It is well worth the $149.95.

For the software developer searching for the right language to write software in, I suggest you look into Megamax-C. The men at Megamax have done an absolutely fantastic job of putting together a complete development system for the Macintosh. This has put a stop to needing a Lisa for development.

The Verdict

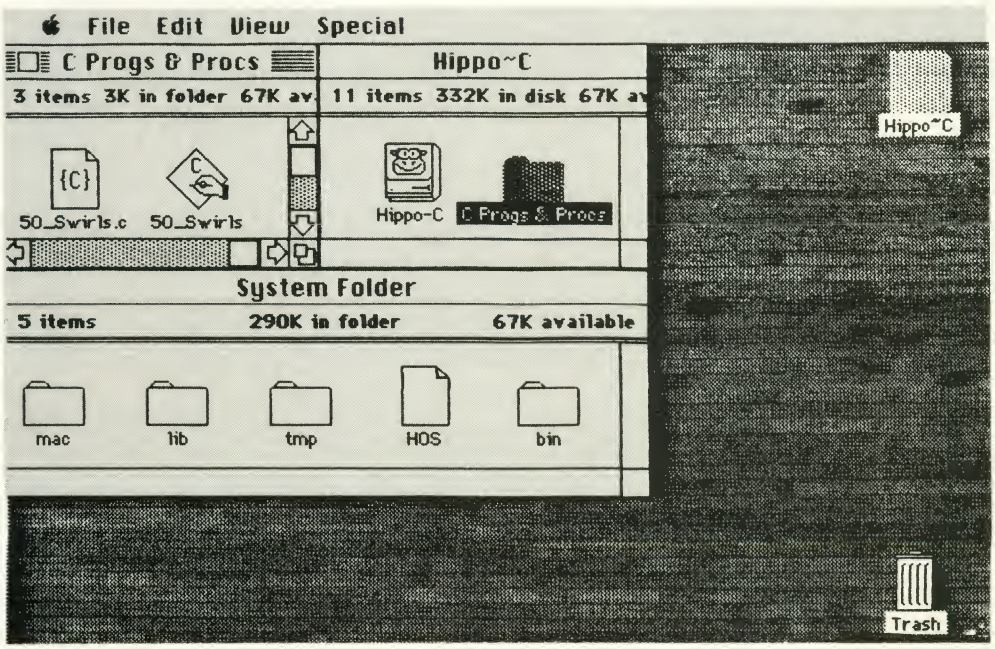
After working with both the Hippo-C and Megamax-C for close to two weeks, I have found that they are both excellent packages, but for two different marketplaces. Hippo-C is designed for the beginner. It is easy to use, and is affordable.

The Megamax-C is a fantastic development system, and should become the new standard language for Macintosh software development. But that is just my opinion. Maybe in two or three months, some new language no one has ever heard of will be released which will stop us dead in our tracks with its ease of use, speed, flexibility, extensibility, and price. A perfect programming language for the Mac. Then again, maybe not . . .

In general, both are great compilers but aimed at different users. If you are planning on buying one of them, think about what you will be using it for: Hobby or Development? Then buy the package that is right for you.

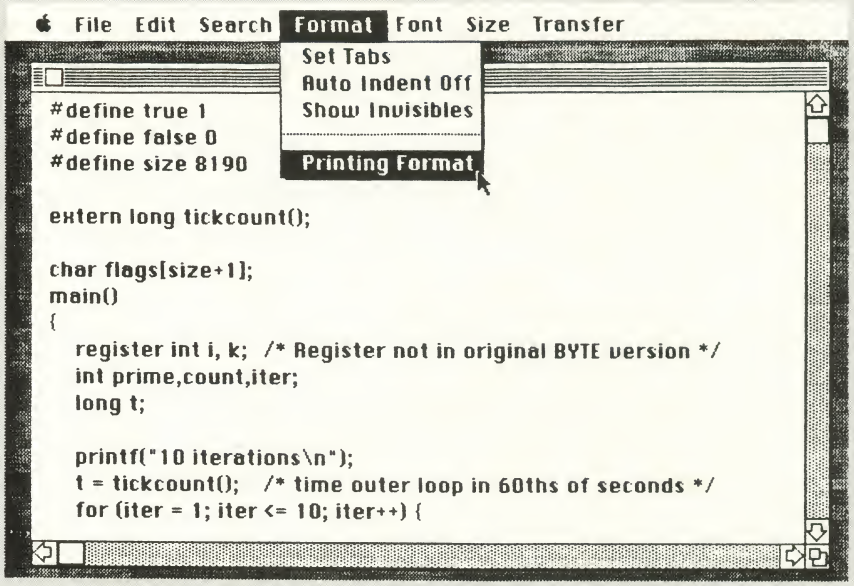
I hope to provide Macazine with a follow-up article reviewing Manx's Aztec C68K-C, and any other C compilers that are released between now and then. Until next time. . .

Gerald H. Ablan, Jr.



Hippo-C Disk Directory—notice unix-like folders

"C" It In Action



Megamax Text Editor-format menu shown

This example program is supplied by Apple with the "Inside Macintosh" documentation. It was converted from the original Pascal version to C by Eric Parker at Megamax Inc. The program is the core of a text editor. It creates a window for displaying text and uses the menu bar to select the standard cut, copy and paste operations. The standard desk accessories can also be used. All routines used are Macintosh ROM calls. The Megamax C development system provides a full complement of UNIX™ compatible functions as well.

The program demonstrates the basic format of a Macintosh program: initialization followed by a main event loop which calls subroutines to handle each event. The events may be either user generated (e.g. mouse button or key depressed) or system generated (e.g. window update). The running of desk accessories (among other things) is handled by calling the routine **systemtask()** once per cycle through the main event loop. Writing programs for the Macintosh is complicated by the flexibility of the user interface: the more flexible it is the more parameters it must be given.

To create programs like this one you must have the "Inside Macintosh" document from Apple. As should be clear from this one example, a thorough understanding of what's going on behind the scenes is required.

The program takes 1:50 min to compile and link creating an executable file of 3288 bytes. A custom icon could be designed and added to the file using the resource maker at this point if desired.

Fun With Edit

This is the sample text edit program from Apple converted to C by Megamax Inc.

```
*/

#include <qd.h>          /*Header files define data types,
-include <win.h>                        constants, etc.*/
-include <menu.h>
-include <event.h>
-include <te.h>
-include <stdio.h>

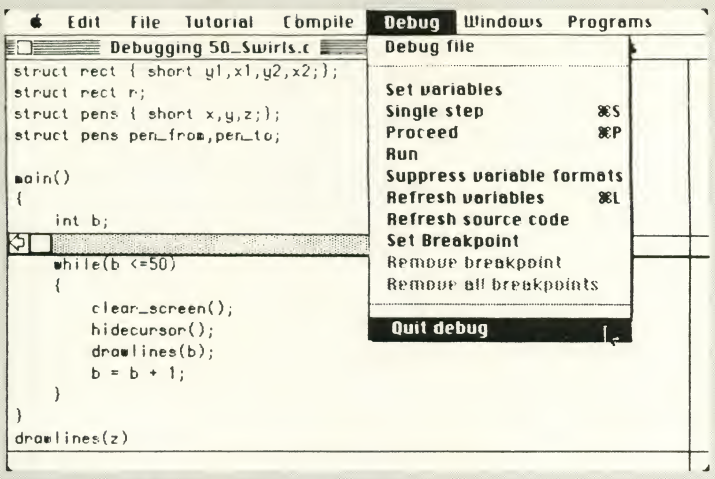
-define lastmenu 3
-define applemenu 1
-define filemenu 256
-define editmenu 257

menuhandle mymenus[lastmenu+1];
rect screenrect, dragrect, prect;
boolean doneflag, temp;
eventrecord myevent;
int code, refnum;
windowrecord wrecord;
windowptr mywindow, whichwindow;
int themenu, theitem;
tehandle hte;

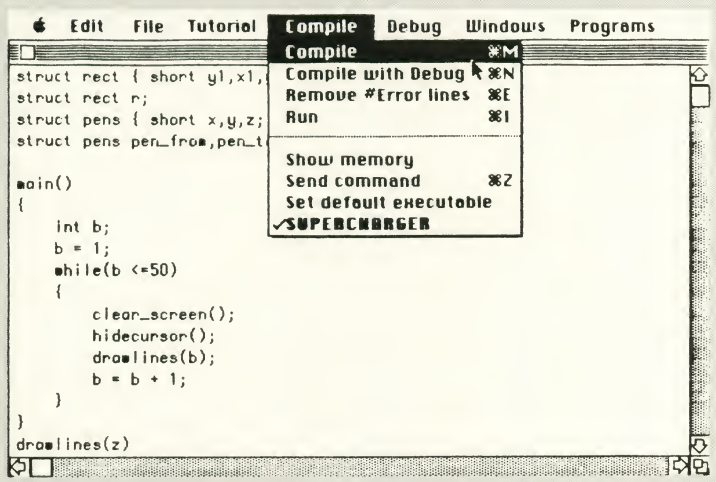
setupmenus()
/*   Create the menu bar and items for each menu */
{
   int i;
   char appletitle[2];

   initmenus();
   appletitle[0] = applesymbol; appletitle[1] = 0;
   mymenus[1] = newmenu(applemenu, appletitle);
   addresmenu(mymenus[1], "DRVR"); /*add all desk
   accessories*/
   mymenus[2] = newmenu(filemenu, "File");
   appendmenu(mymenus[2], "Quit");
   mymenus[3] = newmenu(editmenu, "Edit");
   appendmenu(mymenus[3], "Cut;Copy;Paste");
   for (i=1;i<=lastmenu; i++)
     insertmenu(mymenus[i], 0);
   drawmenubar();
   }

docommand(themenu, theitem)
int themenu, theitem;
/* Execute a command from the menu bar, NOTE:
passed a long */
{
  char name[256];
  int i;
```



Hippo-C—debug menu shown



Hippo-C—compile menu shown

```
switch (themenu){ /* match one of the following
cases: */
  case applemenu: /* desk accessory selected */
    getitem(mymenus[1], theitem, name); /* get its
    name */
    refnum = opendeskacc(name); /* start it up */
    break;
  case filemenu: /* only "quit" defined under "file" */
    doneflag = 1;
    break;
  case editmenu:
    if(!systemedit(theitem-1)){ /* not for desk acces-
    sory */
      setport(mywindow);
      switch (theitem)2
        case 1: tecut(hte); break; /* text edit manager
        does all the work */
        case 2: tecopy(hte); break;
        case 3: tepaste(hte); break;
      }
    }
  }
  hilitemenu(0);      /* turn off inverse block around
  menu name */
}

main()
{
  #include <qdvars.h> /* quickdraw globals */
  rect windowrect;
  initgraf(&theport); /* gobs of initialization; all re-
  quired */
  initfonts();
  flushevents(everyevent,0);
  initwindows();
  setupmenus(); /* subroutine defined above */
  teinit();
  initdialogs(NULL);
  initcursor();

  setrect(&screenrect, 4, 40, 508, 338);
  setrect(&dragrect, 4, 24, screenrect.a.right-4, screen-
  rect.a.bottom-4);
  doneflag = 0;

  mywindow = newwindow(&wrecord,&screenrect,
  "Fun with Edit", 1,0,(long)-1, 1,(long)0);
  setport(mywindow); /* tells quickdraw
  where to draw */

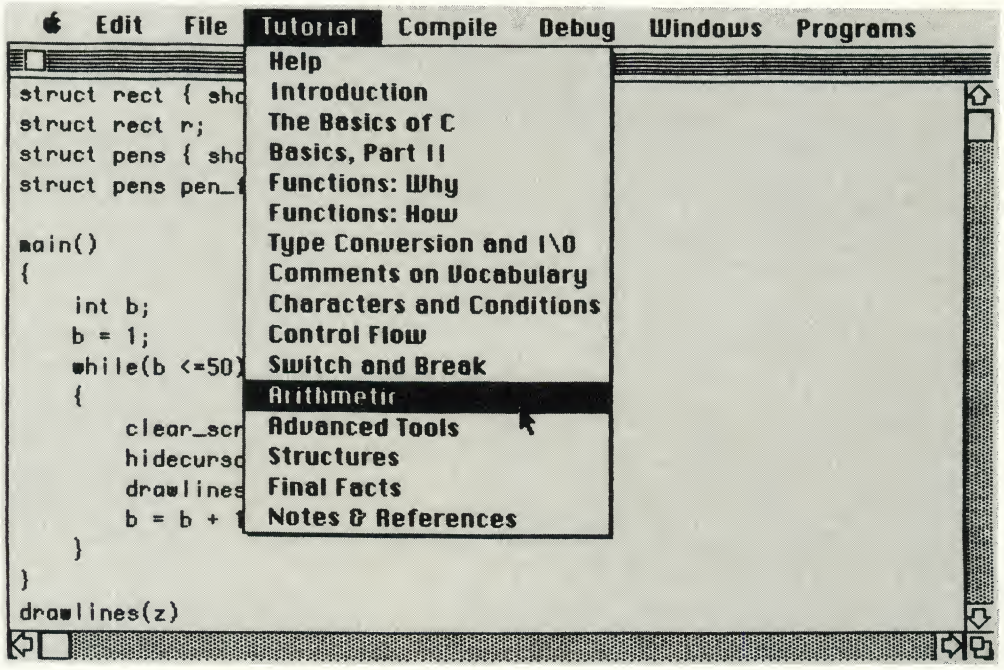
  blockmove(&theport->portrect, &prect, (long)sizeof
  prect);
  insetrect(&prect, 4,0);
  hte = tenew(&prect, &prect);
  do { /* start of main event loop */
    systemtask(); /* do any desk accessories and other
    periodic system functions */
    teidle(hte); /* winks the cursor */
    temp = getnextevent(everyevent, &myevent);
    switch (myevent.what) { /* match one of the following
    cases: */
      case mousedown: /* mouse button was pressed */
        code = findwindow(&myevent.where,
        &whichwindow);
        switch (code) { /* code is the type of thing the
        mouse was over */
          case inmenubar:
            docommand(menuselect(&myevent.where));
            break;
          case insyswindow:
            systemclick(&myevent, whichwindow); break;
          case indrag: /* ie.title bar of window */
            dragwindow(whichwindow,
```

```
            &myevent.where,&dragrect);
            break;
          case ingrow: /* no grow region for window in
          this program */
          case incontent:
            if (whichwindow ! = frontwindow())
            select window(whichwindow);
          else {
            globaltolocal(&myevent.where);
            teclick(&myevent.where, 0, hte);
          }
          break;
      } /* end of nested switch statement */
      break;
    case keydown:
    case autokey:
      if(mywindow=frontwindow())
        tekey((int)(myevent.message & 255), hte);
      break;
    case activateevt:
      if (myevent.modifiers & 1)
        teactivate(hte);
      else
        tedeactivate(hte);
      break;
    case updateevt: /* part of window uncovered and
    needs to be redisplayed */
      setport(mywindow);
      beginupdate(mywindow);
      teupdate(&theport->portrect, hte);
      endupdate(mywindow);
      break;
      }
    } while { doneflag = (0);
}
```

Hippo-C Level I
Hippopotamus Software
1250 Oakmead Parkway, Suite 210
Sunnyvale, CA 94086
(408) 730-2601
List Price: $149.95

Megamax C Language Development System
Megamax, Inc.
Box 6015, Dept. W
Waco, TX 76706
(214) 987-4931
List Price: $299.95

Gerald H. Ablan, Jr. is a free-lance author and owns One Step Beyond of Chicago, a software distribution operation.



Hippo—C—tutorial menu shown

Comdex—Fall 1984



John, Robert, Joel . MACPhone



Dave Fradin, President, Smooth Talker



Jeff Boxer, Steve Hardy . MACPrivate Eye



Marion Schack . MACLion
Seth Lipkin, Hyperdrive



ICON Concepts booth, and The MACazine

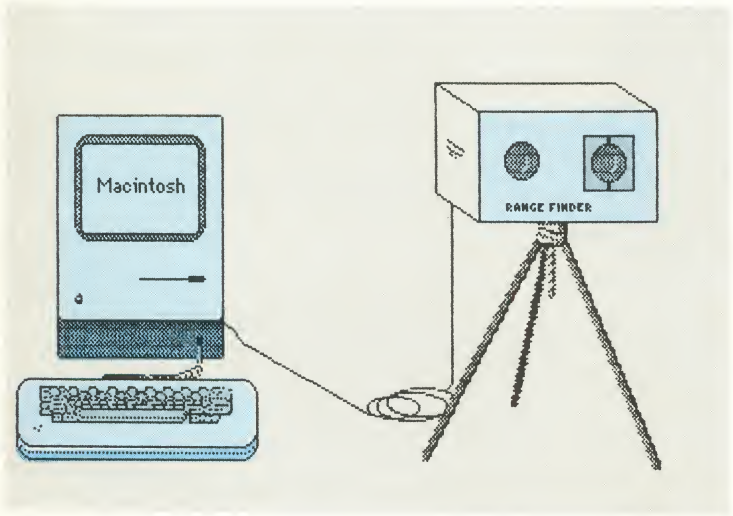


Deborah Davis, V. P. . ICON Concepts

Mac-ventions Wanted

By Herb Vickers

Mac-ventions Wanted is a lighthearted and informal look at some of the possible and impossible future applications both in hardware and software for the Macintosh. It is hoped that some of these "lazy dreamer" ideas may find a designer and therefore make their way into reality.



1> MacWheels—Something similar to a golf cart, yet for use in industrial areas, this cart would be outfitted with a Macintosh and keyboard on an arm that could be moved into position in front of the driver for data entry, and swung back out of the way and locked into position while driving the cart. A 512K Mac with a program like TK!Solver, good integrated software and a mass storage device would make a design engineer's job at an industrial construction site much easier.

2> MacWood Shop—This tool has to be a cabinet maker's dream come true! Linked to the Mac through the RS-422 port is an industrial-sized X/Y Plotter. This plotter, however, holds a piece of plywood or other material and transfers drawings done in MacDraw into finished cuts from a jigsaw or router. All the operator has to do is draw his piece and save the drawing to disk. He then uses the program for the MacWood Shop to cut the piece using the same drawing. He mounts the raw material in his jigsaw, tells his program where to start cutting, then catches the finished pieces as they fall off...perfectly formed!

3> Auto-Mac Poll—Picture the Macintosh sitting all alone. But! The Mac is not lonely! It is linked to the telephone, and is busily dialing numbers from its memory. When a party answers at the other end, the Mac, using synthesized speech, explains to them that it is taking a poll. If the person would like to participate in the poll, they may respond by pressing a "1" on their telephone. If they do not, they can respond by pressing a "0". And all the while, Mac is finding out what people have to say about important issues.

4> MacReader—Suppose the Mac could do its own typing. Sounds impossible, doesn't it? Yet suppose your Mac had a high-resolution digitizer installed in the Imagewriter similar to the one from Thunderware, Inc., 19-G Orinda Way, Orinda, CA 94563, Phone (415) 254-6581. The Thunderware digitizer replaces the ribbon cartridge in your Imagewriter printer. As sold, you may use it to record any printed material such as pictures and documents as MacPaint files. MacReader would let you use that same digitizer to record text as text files. It would employ sophisticated algorithms to interpret characters on the page as letters of the alphabet or as numbers. The program would already be able to read when the characters being read are of the most popular fonts of the Macintosh. If an encountered font or character is unknown to the program, it will prompt the operator, allowing him to indicate the identity of each character with a single keypress. This enables the system to learn to read an unknown font as it becomes necessary. A newly "learned" font could then be stored as a font file, making it possible to build libraries of special fonts, and enabling the Macintosh to read any text from any book. All the operator would have to do is feed the pages through the Imagewriter. The pages of books could be reproduced on an office copier before reading. Doing a Master's Thesis this way is a snap! (Well, nearly.)

5> MacRange Finder—This is a device similar to the MicronEye from Micron Technology, Inc., Vision Systems Group, 2805 E. Columbia Rd., Boise, ID 83706, Phone (208) 383-4106. The difference is that MacRange Finder has two eyes, one fixed and one mounted on an individual vertical shaft. The eyes would both send digitized images to the Macintosh that the software would superimpose one on the other on the Mac screen. By making micro changes in an adjustment of the shaft mounted eye, the software can bring the two images of an object (designated by the operator with the mouse) together and use triangulation to find the range to that object.

Herb Vickers is an Apple Products Specialist at Computer Place, Tyler, Texas, and a regular contributor to The MACazine.

continued from page 28

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IN THE WARMING ROOM
ON THE FIRST FLOOR.

Pierce 24

BRUNCH MENU

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Belgian Waffles
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Fruit Compote
Oatmeal
Apple Fritters
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Tombstone 24

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Uncial 18



MAC-CETERA

• At a recent meeting of the Macintosh User's Group, San Francisco, John T. Draper announced the availability of "Inside Your Macintosh," a Filevision based template designed to assist programmers to learn the internal functions of the Macintosh. According to reports from the group, it includes data diagrams, flow charts, pictures and other information. NETWORK NEXUS, 3 Twin Dolphin Drive, Redwood City, CA 94065.

• Serious programmers might be interested in joining John T. Draper's PROGRAMMING NETWORK. It provides for information exchange, strategic planning tips, algorithms, inside system information on the Macintosh, and electronic mail services between programmers. The system is modem-accessible via Tymnet. For more information, contact John T. Draper at Programming Network, 182 Caldecott Lane, #126, Oakland, CA 94065. Thanks to Bill Reefer of SHOWPAGE.

• Version 3.0 of MacWrite should be approaching release. The new version reportedly will handle documents of up to 50 pages in length. Could it be planned for release as part of the Apple Macintosh Office Systems Package? That package is reportedly scheduled for a formal announcement in January, and release by March.

• Great Plains Software has announced a December 1, 1984 shipping date for its fully integrated Hardisk Accounting System; it includes General Ledger with Financial Reporting and Budgeting, Accounts Receivable, Accounts Payable, Payroll, and Inventory Management with Point of Sale invoicing. Job Cost with Estimating, Costing and Pre-Billing are scheduled to follow in early 1985. The Tecmar hard disk is required.

• Steve Wozniak, brain-parent of the Apple Computer and co-founder of Apple Computer, Inc. has been very active on the Apple User Group speakers circuit of late. By all accounts he's been enjoying his road show, and has been very receptive to invitations from User Groups...totally consistent with the Wozniak reputation.

• Want to write? Get published? Get paid? Iconcepts—The MACazine is still looking for "a few good writers and reviewers." If you have an idea for an article, a column, or a review that you'd like to do, drop us a line or call us at 214/677-2793. Unsolicited manuscripts and graphics for possible use in The MACazine are welcomed, but cannot be returned. If in doubt, call...we'll be able to tell you whether or not someone else is working on the topic you've suggested. If not, you may get the assignment. We're particularly interested in articles by actual users on the applications to which they've put their Macs, articles on business applications, information on how students are using their Macs, innovative Mac projects, educational applications, etc.

• Watch for a new 10 megabyte hard disk to be announced after the first of the year which will carry a suggested retail price of only $799.00. We were incredulous when we heard reports of the disk, but have been advised by knowledgeable folk in the hard disk field that such a price is *not* "beyond the beyond." You heard it first here!

• Rumor has it that the "Fatter Mac" has already been developed and is already being utilized by UNIX developers. The "Fatter Mac" (as opposed to the 'Fat 512K Mac') is rumored to be a faster and more powerful machine which utilizes the Motorola 68010 processor...a full-fledged 32 bit processor. The "Fatter Mac" reportedly has a 12" screen and 512K of internal memory rigged to a 6502 co-processor. A Mac built on the 68010 sounds like a natural evolutionary step to us...it should greatly facilitate penetration of the Fortune 500 market, one of Apple's major corporate marketing goals. Stay tuned!

Comdex—Fall 1984



Chris Derossi, Melvin Creighton, Creighton Development



Thomas Gates, Maccoach, A.T.I.



Pete Mackie, Author P.C. To Mac and Back



Donald Waldo, Mite Communication



Ocean, Jaquelin, Kane, Romena, Typing Intrigue



Richard Skiff, Jim Goodnow, AZTEC-C, MANX





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The Club Mac News, July 1984: "...the single most important piece of software to show up since Lotus 1-2-3.™"

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Esther Dyson, RELease 1.0: "...it perfectly embodies the spirit of the Mac in making information accessible and comprehensible to the rest of us."

MacLine, September 1984: "It is Filevision's unique integration of object-oriented drawing and data base functions that gives it the edge over other stand-alone graphics or data base applications."

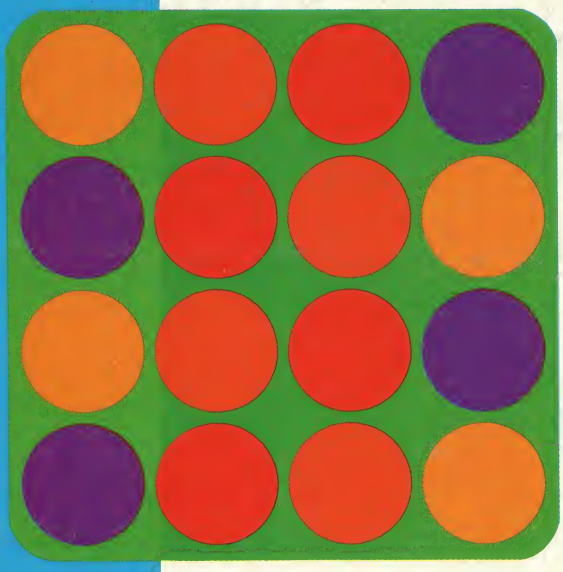
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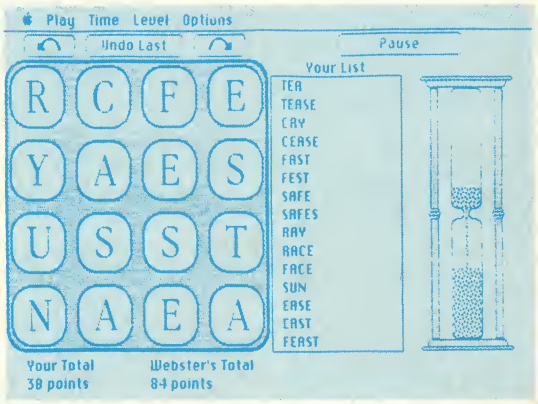
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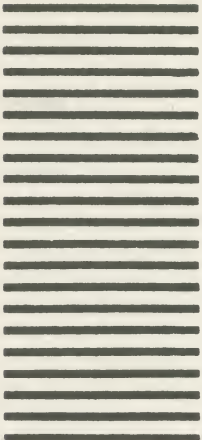
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